complete submittal as to each of the SIP elements for which these findings are made. In addition, EPA will not promulgate a FIP if the state makes the required SIP submittal and EPA takes final action to approve the submittal within two years of EPA's finding.

II. Final Action

A. Rule

Today, EPA is making a finding of failure to submit an attainment plan for the Medford-Ashland, Oregon, PM–10 nonattainment area. Specifically, EPA is making a finding that Oregon has not submitted a plan satisfying the requirement under section 189(a)(2)(A) of the Act. This section requires that each state submit a plan that includes certain provisions required under section 189(a)(1) within one year of the date of enactment of the Clean Air Act Amendments of 1990 (i.e., by November 15, 1991) for areas designated nonattainment for PM–10 under section 107(d)(4). Other provisions required under section 189(a)(1)(A) were due at a later date (i.e., provisions relating to new source review). See section 189(a)(2)(A).

B. Effective Date Under the Administrative Procedures Act

The Administrative Procedures Act (APA) applies to this rulemaking action. Under the APA, 5 U.S.C. 553(d)(3), agency rulemaking may take effect sooner than 30 days after the date of publication in the **Federal Register** if the agency has good cause to mandate an earlier effective date. Today's action concerns a SIP submission that is already overdue. On February 11, 1997, EPA notified the state that EPA was considering the action it is taking today. Consequently, the state has been on notice for some time that today's action was pending. In addition, today's action simply starts a ''clock'' that will not result in sanctions against the state for 18 months, and that the state may ''turn off'' through the submission of a complete SIP submittal. These reasons support establishing an effective date that is earlier than 30 days after the date of publication. Therefore, today's action will be effective June 13, 1997.

C. Notice-and-Comment Under the Administrative Procedures Act

This rule is a final agency action, but is not subject to the notice-and-comment requirements of the APA, 5 U.S.C. 553(b). EPA believes that, because of the limited time provided to make findings of failure to submit and findings of incompleteness regarding SIP submissions or elements of SIP submission requirements, Congress did not intend such findings to be subject to notice-and-comment rulemaking. However, to the extent such findings are subject to notice-and-comment rulemaking, EPA invokes the good cause exception pursuant to the APA, 5 U.S.C. 553(b)(3)(B). Notice-and-comment are unnecessary because no EPA judgment is involved in making a nonsubstantive finding of failure to submit elements of SIP submissions required by the Clean Air Act. Furthermore, providing notice-and-comment would be impracticable because of the limited time provided under the statute for making such determinations. Finally, notice-and-comment would be contrary to the public interest because it would divert agency resources from the critical substantive review of complete SIPs. See 58 FR 51270, 51272, n.17 (Oct. 1, 1993); 59 FR 39832, 39853 (Aug. 4, 1994).

III. Administrative Requirements

A. Executive Order 12866

The Office of Management and Budget (OMB) has exempted this regulatory action from Executive Order 12866 review.

B. Unfunded Mandates

Under Section 202 of the Unfunded Mandates Reform Act of 1995 (''Unfunded Mandates Act''), signed into law on March 22, 1995, EPA must prepare a budgetary impact statement to accompany any proposed or final rule that includes a Federal mandate that may result in estimated costs to state, local, or tribal governments in the aggregate, or to the private sector, of $100 million or more. Under Section 205, EPA must select the most cost-effective and least burdensome alternative that achieves the objectives of the rule and is consistent with statutory requirements. Section 203 requires EPA to establish a plan for informing and advising any small governments that may be significantly or uniquely impacted on by the rule.

EPA has determined that today's action is not a Federal mandate. The various CAA provisions discussed in this rule require the state to submit SIPs. This rule merely provides a finding that the state did not meet those requirements. This rule does not, by itself, require any particular action by the state, local, or tribal government; or by the private sector.

For the same reasons, EPA has determined that this rule contains no regulatory requirements that might significantly or uniquely affect small governments.

C. Regulatory Flexibility Act

Under the Regulatory Flexibility Act (RFA), 5 U.S.C. 600 *et seq.*, EPA must prepare a regulatory flexibility analysis assessing the impact of any proposed or final rule on small entities of any rule subject to the notice-and-comment rulemaking requirements. Because this action is exempt from such requirements as described above, it is not subject to the RFA.

D. Submission to Congress and the General Accounting Office

Under 5 U.S.C. section 801(a)(1)(A) as added by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the General Accounting Office prior to publication of the rule in today's **Federal Register**. This rule is not a ''major rule'' as defined by 5 U.S.C. section 804(2).

E. Petitions for Judicial Review

Under section 307(b)(1) of the Clean Air Act, petitions for judicial review of this action must be filed in the United States Court of Appeals for the appropriate circuit by August 12, 1997. Filing a petition for reconsideration by the Administrator of this final rule does not affect the finality of this rule for the purposes of judicial review nor does it extend the time within which a petition for judicial review may be filed and shall not postpone the effectiveness of such rule or action. This action may not be challenged later in proceedings to enforce its requirements. (See CAA section 307(b)(2), 42 U.S.C. 7607(b)(2))

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Particulate matter.

Dated: May 8, 1997.

Chuck Clarke,

Regional Administrator.

[FR Doc. 97–15566 Filed 6–12–97; 8:45 am]

BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[AD–FRL–5839–2]

RIN 2060–AH07

National Emission Standards for Hazardous Air Pollutants From Secondary Lead Smelting

AGENCY: Environmental Protection Agency (EPA).

ACTION: Direct final rule: Amendments to rule.

SUMMARY: This action amends the national emission standards for hazardous air pollutants (NESHAP) for new and existing secondary lead smelters. Changes to the NESHAP are being made to address comments received in petitions to reconsider sent to the EPA following promulgation of the final rule. These changes affect several aspects of the final rule including applicability of the THC limit for collocated blast and reverberatory furnaces, minimum baghouse standard operating procedure (SOP) requirements, and bag leak detection system specifications and requirements. Several minor changes are also being made to clarify the intent of the rule. The EPA is making these amendments as a direct final rule without prior proposal because the Agency views this as a noncontroversial amendment and anticipates no significant adverse comments.

The EPA is also proposing these amendments in the Proposed Rules Section of this **Federal Register**. If no significant adverse comments are received in response to this direct final rule, no further action is contemplated in relation to the proposal. If the EPA receives significant adverse comments, the direct final rule will be withdrawn and all public comments received will be addressed in a subsequent final rule based on the proposed rule. The EPA will not institute a second comment period on the proposal. Any parties interested in commenting on the amendments should do so at this time.

DATES: *Effective Date.* This action will be effective August 4, 1997 unless significant adverse comments on this action are received by July 14, 1997. If significant adverse comments are received, the EPA will withdraw this Direct Final rule and will publish timely notice of the withdrawal inthe **Federal Register,** and all public comments received will be addressed in a subsequent final rule.

Judicial Review. Under section 307(b)(1) of the Act, judicial review of a NESHAP is available only by filing a petition for review in the U.S. Court of Appeals for the District of Columbia Circuit within 60 days of today's publication of this final rule. Under section 307(b)(2) of the Act, the requirements that are the subject of today's notice may not be challenged later in civil or criminal proceedings brought by the EPA to enforce these requirements.

ADDRESSES: *Docket.* Docket No. A–92–43, containing information considered by the EPA in development of the promulgated standards, is available for public inspection and copying between 8:00 a.m. and 5:30 p.m., Monday through Friday except for Federal holidays, at the following address: U.S. Environmental Protection Agency, Air and Radiation Docket and Information Center (MC–6102), 401 M Street, SW., Washington, DC 20460; telephone (202) 260–7548. The docket is located at the above address in Room M–1500, Waterside Mall (ground floor). A reasonable fee may be charged for copying.

Comments. Written comments should be submitted to: Docket A–92–43, U.S. EPA, Air & Radiation Docket & Information Center, 401 M. Street, S.W., Room 1500, Washington, D.C. 20460.

FOR FURTHER INFORMATION CONTACT: Mr. Kevin Cavender, Metals Group, Emission Standards Division (MD–13), U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone (919) 541–2364.

SUPPLEMENTARY INFORMATION:

The information presented in this preamble is organized as follows:

I. Background

The NESHAP for secondary lead smelting (40 CFR part 63, subpart X) was proposed in the **Federal Register** on June 9, 1994 (59 FR 29750). The EPA received 31 letters commenting on the proposed rule and proposed area source listing. After considering fully the comments received, the EPA promulgated this NESHAP in the **Federal Register** on June 23, 1995 (60 FR 32587).

The final rule establishes emission limits for lead, as a surrogate for all metallic Hazardous Air Pollutants (HAP), from smelting furnaces, refining kettles, agglomerating furnaces, dryers, and fugitive dust sources at secondary lead smelters. The final rule also establishes emission limits for total hydrocarbons (THC), as a surrogate for HAP organics, from smelting furnaces. Work practice standards (i.e., minimum hood face velocities, and building enclosures) were specified for the capture and control of process fugitive sources including furnace charging equipment and tapping locations, refining kettles, driers, and agglomerating furnace vents and taps. The final rule also requires smelters to develop site specific Standard Operating Procedures (SOP) manuals for fugitive dust control and baghouse operation and maintenance. Minimum SOP requirements were specified in the rule.

Following publication of the final rule, the EPA received three petitions for reconsideration pursuant to section 307(d)(7)(B) of the act from secondary lead smelter owners and operators, and the Association of Battery Recyclers, an industry trade association that represents the majority of the secondary lead smelters in the United States.

The petitioners had subsantive objections to several technical requirements in the final rule that were not included in the proposal. The EPA has determined that several of the objections contained in the petitions, though not dealing with critical parts of the rule, are properly founded and that the rule should be revised. The EPA extended the compliance and SOP submittal dates by six months, in order to allow affected sources time to address the changes being made in this action. The extension was published in the **Federal Register** on December 12, 1996 (60 FR 65334). The EPA is making further amendments in this document.

II. Summary

A. Summary of Promulgated Standards

The promulgated rule, as amended, establishes standards to limit HAP emissions from smelting furnaces, refining kettles, agglomerating furnaces, dryers, and fugitive dust sources at both major source and area source secondary lead smelters. The promulgated rule does not apply to primary lead smelters, lead refiners, or lead remelters.

1. Process Emission Sources

Owners and operators of all smelting furnace types must limit lead compound emissions, which is a surrogate for all metal HAP, to no more than 2.0 milligrams per dry standard cubic meter (mg/dscm; 0.00087 grains per dry standard cubic foot (gr/dscf)). Owners and operators must limit THC emissions, which is a surrogate for all organic HAP's, to varying levels depending on the smelting furnace type. No THC limits apply to reverberatory, rotary, and electric furnaces not collocated with blast furnaces.

Owners and operators of collocated blast furnaces and reverberatory furnaces must comply with a THC limit of 20 parts per million by volume (ppmv) as propane at 4 percent carbon dioxide (CO_2) when both furnaces are operating. Less stringent limits apply when the reverberatory furnace is not operating. When the reverberatory furnace is not operating, new blast furnaces collocated with reverberatory furnaces must comply with a THC limit of 70 ppmv, and existing blast furnaces must comply with a THC limit of 360 ppmv. For the purpose of this rule, a collocated blast furnace and reverberatory furnace is defined as operation at the same site of a reverberatory furnace and a blast furnace with the volumetric flow rate discharged from the reverberatory furnaces being at least equal to that discharged from the blast furnaces.

The THC standard for a collocated blast furnace and reverberatory furnace is based on commingling the high-volume, high-temperature (approximately 1000 °C) reverberatory exhaust with the low-volume, low-temperature (approximately 100 °C) blast furnace exhaust to incinerate the organic HAP in the blast furnace exhaust. Organics are further reduced in a typical collocated blast furnace and reverberatory configuration since the reverberatory furnace processes the majority of the broken battery materials while the blast furnace processes reverberatory slag and only small amounts of broken batteries.

Owners and operators of new blast furnaces not collocated with a reverberatory furnace (as defined above) must comply with a THC limit of 70 ppmv. Existing blast furnaces not collocated with a reverberatory furnace must comply with a THC limit of 360 ppmv. The THC emissions from each blast furnace charging chute at all smelters with blast furnaces shall not exceed 0.20 kilograms per hour (kg/hr; 0.44 pounds per hour (lb/hr)).

Table 2 in the attached regulatory text summarizes the emission limits for smelting furnace process sources.

2. Process Fugitive Emission Sources

Owners and operators must comply with either of two process fugitive emission control options. Each process fugitive emission source must be controlled either by an enclosure-type hood that is ventilated to a control device or must be fully enclosed within a total enclosure that is ventilated to a control device. Lead compound emissions, as a surrogate for all metal HAP's, from each hood or building control device are limited to 2.0 mg/dscm (0.00087 gr/dscf).

Refining kettle enclosure hoods must have a minimum air velocity into all hood openings (i.e., face velocity) of 75 meters per minute (m/min; 250 feet per minute (fpm)), and the enclosure hoods over drying kiln transition pieces must have a minimum face velocity of 110 m/min (350 fpm). All other process fugitive emission sources (charging points, lead and slag taps, and agglomerating furnaces) with an enclosure hood must have a minimum face velocity of 90 m/min (300 fpm). If a ventilated building is used to control process fugitive sources, then it must be ventilated at such a rate as to maintain a lower than ambient pressure within the building, ensuring that a in-draft will exist at all doors and other openings.

Table 3 in the attached regulatory text summarizes the requirements for process fugitive emission sources.

3. Fugitive Dust Sources

Fugitive dust emissions must be controlled by the measures specified in a standard operating procedures (SOP) manual. The SOP must be developed by the owner or operator of each smelter and submitted to the Administrator for approval. The SOP must describe the measures that will be used to control fugitive dust emissions from plant roadways; the battery breaking area; the furnace, refining, and casting areas; and the materials storage and handling areas. Acceptable control measures include either a total enclosure of the fugitive dust source and ventilation of the enclosure to a control device, or a combination of partial enclosures, wet suppression, and pavement cleaning. Lead compound emissions, as a surrogate for all metal HAP's, from enclosure control devices must be limited to 2.0 mg/dscm (0.00087 gr/dscf).

4. Compliance Dates

Compliance for existing sources must be achieved no later than December 23, 1997, or upon startup for new or reconstructed sources.

5. Compliance Test Methods

Compliance with the emission limits for lead compounds shall be determined according to EPA Reference Method 12 (40 CFR part 60, appendix A). EPA Reference Method 9 is not required for determining compliance with the emission limits for lead compounds. Compliance with the THC emission limits shall be determined according to EPA Reference Method 25A (40 CFR part 60, appendix A). Concentrations of THC shall be reported in ppmv, as propane, corrected to 4 percent CO_2 to correct for dilution. Sampling point locations shall be determined according to EPA Reference Method 1, and stack gas conditions shall be determined, as appropriate, according to EPA Reference Methods 2, 3, 3B, and 4 (40 CFR part 60, appendix A).

6. Monitoring Requirements

The rule requires an initial lead compound emission test for all subject control devices to demonstrate compliance with the lead compound emission standards. In addition, the rule requires annual compliance testing for devices controlling process and process fugitive emission sources. All owners and operators must also prepare SOP manuals for the systematic inspection and maintenance of all baghouses, and install and operate bag leak detection systems. Where required, a single bagleak detector may be used to monitor a common stack serving multiple baghouses. Each manual shall also include provisions for the diagnosis of problems and a corrective action plan. Plans for corrective action must prescribe procedures to be followed whenever an alarm is triggered.

Compliance with the THC emission standards (except that for blast furnace charging) will require monitoring either afterburner or incinerator temperature or THC concentration. The THC emission limit includes a carbon dioxide correction factor which accounts for dilution (e.g., combining non-process streams, and tempering air). As such, the THC monitor may be placed anywhere down stream of any organic HAP control devices (e.g., after the baghouse). Only an initial compliance test is required for blast furnace charging.

7. Notification Requirements

The owner or operator will be required to comply with the notification requirements in the General Provisions to part 63 (40 CFR part 60, subpart A). In addition, owners and operators will be required to submit the fugitive dust control SOP and the baghouse SOP to the Administrator for review and approval.

8. Recordkeeping and Reporting Requirements

Owners and operators will be required to comply with the recordkeeping and reporting requirements in the General Provisions to part 63 (40 CFR part 60, subpart A). In addition, the owners and operators will be required to maintain records demonstrating that they have implemented the requirements of the fugitive dust control SOP and the baghouse SOP, including records of all bag leak detection system alarms and corrective actions.

B. Summary of Changes Made Since Promulgation

The EPA has made several changes to the promulgated rule based on comments contained in the petitions for reconsideration. A summary of the changes is presented below. Additional discussion of the changes and the rationale for these changes is presented in section II–C of this preamble.

1. Definitions

Several definitions were revised or added to resolve issues and clarify the intent of the rule. The definition of a bag leak detection system was revised to specifically not exclude devices that operate on the principle of light transmittance. Bag leak detection systems still must meet the specifications outlined in § 63.548(e).

A definition of collocated blast furnace and reverberatory furnace was added. The new definition is based, in part, on the relative exhaust rate for the blast furnace compared to the reverberatory furnace. This definition was added in response to comments from two smelters where the blast furnace exhaust was substantially higher than the reverberatory furnace making commingling infeasible.

The definitions of secondary lead smelter and smelting were revised and a definition of lead alloy was added to clarify that solder reclamation operations are not subject to the rule.

The definitions of partial and total enclosure were revised to clarify the intent of the rule. A definition of a high efficiency particulate air (HEPA) filter was added for completeness.

2. Standards for Process Fugitive Sources

Section 63.544 was re-organized to clarify the intent of the rule due to comments received. Specifically, the section was revised to make it clear that a facility wishing to comply with the standard through the use of a total enclosure may still use local hooding within the total enclosure, and that a facility may choose to control some fugitive emission sources with total enclosures and others through enclosure hooding. These changes do not affect the requirements of the rule.

The minimum doorway air velocity requirement for total enclosures has been deleted. As revised, owners and operators choosing to control process fugitive emission sources through total enclosures are required to ventilate the building at a rate that would ensure in-draft at all doorways. This requirement would replace the requirement for maintaining an in-draft velocity of 250 meters per minute at all doorways.

3. Test Methods and Schedule

The test method for demonstrating compliance with the hood face velocity has been revised to address comments received in the petitions. The current procedure could be read to require facilities to test the hood face velocity with all access doors in the open position. One petitioner argued that this requirement would, in many instances, result in artificial operating conditions that would make compliance impossible for certain operators. The rule is being revised to clarify that facilities may demonstrate compliance with the access doors positioned consistent with normal operation.

The test method for demonstrating compliance with the doorway air velocity requirements has been revised to address comments received in the petitions. As revised, owners and operators are given two options for demonstrating that the enclosure is ventilated at a sufficient rate to ensure in-draft at all openings. Under the first option, a vane anemometer is placed in the center of each doorway to demonstrate that air is being drawn into the building. Alternatively, an owner or operator can elect to install a pressure gauge on the leeward wall of the enclosure and demonstrate that the building is under a negative pressure as compared to ambient pressure.

4. Monitoring Requirements

The minimum maintenance requirements specified in the rule have been revised to address comments received in the petitions. The frequency of several of the required inspections were lowered to reduce the burden placed on operators. In addition, the requirements were revised to allow for alternative means of inspection where appropriate (e.g., fan vibration analysis in lieu of visual inspection for wear).

The specifications and requirements for bag leak detection systems have been revised. The minimum detection capability of the bag leak system was increased to 10 milligram per actual cubic meter from 1 milligram per actual cubic meter.

The requirement that a facility perform a compliance test in order to adjust the settings on the bag leak detection system has been dropped. Facilities will be allowed to adjust the bag leak detector as provided in written EPA guidance or manufacturers written guidance in the event EPA guidance is not available. In addition, annual compliance tests have been instated.

The bag leak detection requirement for positive pressure baghouses has been changed. Positive pressure baghouses equipped with stacks now must meet the same bag leak detection system requirements as negative pressure baghouses. None of the affected secondary lead smelters currently operate any positive pressure baghouses without stacks, nor are any expected to install such systems. Therefore positive pressure baghouses without stacks are not addressed in the rule.

Facilities that have equipped their baghouses with HEPA filters as a secondary filter to control emissions escaping the baghouse primary filter are exempted from the bag leak detection requirements. However, the facility must monitor the pressure drop across the HEPA filter, and if the pressure drop falls outside of the limit(s) specified by the filter manufacturer, the owner must take appropriate corrective measures. Baghouses that are used to control emissions from total enclosures used to comply with the fugitive dust standards (§ 63.545) are also exempted from the bag leak detection requirements.

5. Notification Requirements

The submittal date for the fugitive dust control SOP and the SOP for baghouses has been extended by 30 days from June 23, 1997, to July 23, 1997. This extension is being made to allow owners and operators adequate time to incorporate the changes being made in this revision into their SOP manuals.

C. Summary of Environmental, Energy, Health, Cost, and Economic Impacts

The final standards, as amended, will reduce total nationwide emissions of both metal HAP's and organic HAP's from secondary lead smelters by 1,230 megagrams per year (Mg/yr) (1,356 tons/yr). These reductions include 53 Mg/yr (58 tons/yr) of metal HAP's and 1,176 Mg/yr (1,296 tons/yr) of organic HAP's. The organic HAP emission reduction estimate has been reduced since promulgation by 54 Mg/yr (60 tons/yr). This change is due to two facilities no longer meeting the definition of a facility with a collocated blast furnace and reverberatory furnace. The amendments made in today's action do not significantly change the cost and economic impacts of the final rule.

III. Public Participation

Following promulgation, the EPA received three petitions for reconsideration from representatives of secondary lead smelters (Docket ID Nos. IV–D–48, IV–D–49, and IV–D–50). The EPA met with the petitioners to discuss the comments contained in the petitions. Following the meeting, the petitioners provided the EPA with additional information to support the comments made in the petitions (Docket ID Nos. IV–D–51, and IV–D–52).

IV. Significant Public Comments and Responses

The EPA received three petitions to reconsider from owners and operators of secondary lead smelters and industry trade associations. Two of the three petitions contained multiple comments. A document that summarizes the comments and arguments advanced in the petitions, and the EPA responses, was prepared. The document, entitled ''Summary of Petition Comments on Promulgated Rule and EPA Responses, Secondary Lead Smelting NESHAP'', may be found in the docket (Docket ID No. V–B–2). It serves as the basis for the revisions that have been made to the standard since promulgation. This section contains a detailed discussion of the significant comments contained in the petitions and the EPA's responses. Significant comments and new information were received on four topics: the definition of collocated blast and reverberatory furnaces, test methods for determining hood face and doorway air velocities, minimum baghouse SOP requirements, and bag leak detection system specifications and requirements.

A. Definition of Collocated Blast Furnace and Reverberatory Furnaces

Comment: Two petitioners (Docket ID Nos. IV–D–49, and IV–D–50) requested reconsideration of the THC limit for collocated blast furnaces and reverberatory furnaces. One petitioner (Docket ID No. IV–D–49) indicated that their blast furnace was originally designed as a primary lead blast furnace, and as such, had an exhaust rate 10 times higher than typical secondary lead blast furnaces. The high blast furnace exhaust rate compared to their low reverberatory exhaust rate made commingling technically and economically infeasible. The petition supplied information to support the claim.

The second petitioner (Docket ID No. IV–D–50) pointed out that the term ''collocated'' was not defined, and argued that smelter configurations very dramatically. They identified one facility that would have difficulty meeting the requirements since they had two blast furnaces and only one reverberatory furnace. Upon request, the petitioner supplied the exhaust flowrates for the two blast furnaces (25,300 scfm, total) and the reverberatory furnace (8,800 scfm) (Docket ID No. IV–D–52).

Response: The EPA reviewed the requests and the additional information provided by the petitioners. The EPA evaluated the differences in furnace exhaust rates for facilities with blast and reverberatory furnaces (Docket ID No. II–B–36). Information on the exhaust rates was obtained for all eight of the existing facilities with both blast and reverberatory furnaces. On reviewing the information, two groupings of facilities were evident. Six of the facilities had blast furnace exhaust rates which were less than roughly half that of the reverberatory exhaust rate. In contrast, two facilities had blast furnace exhaust rates which are more than 150 percent of the reverberatory exhaust rate. These two facilities, Doe Run, Missouri; and Schuylkill, Louisiana, are the facilities represented in the petitions.

Commingling of the exhaust gases is the basis for the collocated blast furnace and reverberatory furnace THC emission limit. The principle of commingling the exhaust gases is based on a large hot (2000+ degree Fahrenheit) reverberatory furnace exhaust acting as the principle heat source to incinerate any organics in the smaller cooler (roughly 200 °F) blast furnace exhaust. Clearly this condition is not met at the two facilities represented in the petitions. As such, it is unlikely that these two facilities would be able to achieve the THC standard for collocated blast furnaces and reverberatory furnaces by commingling, nor is it likely that they could achieve the standard through the use of afterburners.

To correct this situation, the EPA is adding the following definition of collocated blast furnace and reverberatory furnace to the final rule:

> ''*Collocated blast furnace and reverberatory furnace* means operation at the same location of a blast furnace and a reverberatory furnace with the volumetric flow rate discharged from the blast furnace equal to or less than that discharged from the reverberatory furnace.''

Under this definition, the two facilities represented in the petition would not be classified as having a collocated blast furnace and reverberatory furnace. As such, their blast furnaces would be subject to the blast furnace THC limit of 360 ppmv as propane rather than the 20 ppmv limit for collocated furnaces.

B. Test Methods for Determining Hood Face and Doorway Air Velocities

Comment: One petitioner (Docket ID No. IV–D–50) objected to the requirements in the rule for demonstrating compliance with the hood face air velocity standard. Specifically, the petitioner objected to the requirement that all access doors to a hood be open when measuring hood face velocity. The petitioner noted that at least one smelter has a charging hood with two doors to allow charging from either direction, but only one is open at any one time. In addition, the petitioner pointed out that some of the doors are used solely for the purpose of allowing periodic access for maintenance and other necessary activities. The petitioner argues that the requirement may render compliance with the face velocity standard impossible for certain operators, and does so unnecessarily because it does not reflect normal operations.

Response: The intent of the requirements is to ensure that adequate capture velocities are maintained during normal operating conditions. The EPA did not intend to require compliance demonstrations during artificial ''worst case'' operating conditions. As such, the EPA is revising § 63.547(d) to clarify the rule's intent.

Each access door and opening open during normal operation shall be tested. When a given access door is being tested, all other access doors shall be in the position they would be in during normal operation.

Comment: Two petitioners commented on the requirements for demonstrating compliance with the doorway air velocity standard for total enclosures. One petitioner (Docket ID No. IV–D–50) noted that the requirement could be read to mean that all doors that might be open during normal operation be open simultaneously during testing, regardless of whether such conditions occur during normal operations. A second petitioner (Docket ID No. IV–D–48) also commented that the rule was ambiguous on where and how the compliance with the air velocity requirement is to be measured. The petitioner also noted concern about the acheivability of the 250 feet per minute air velocity requirement. Both petitioners noted that requirements on doorway air velocities were not contained in the proposed rule, and that the industry did not have an opportunity to comment on the requirements.

Response: The EPA's intent was to require adequate ventilation to ensure air flow into the building at all doorways during normal operation conditions. Upon further consideration, the EPA believes that the 250 foot per minute doorway velocity requirement is excessive for this purpose, and would result in undue burden to the industry. As such, the EPA is revising the requirement. As revised, a facility must ventilate the building to a rate that ensures air flow is into the building at all doorways that would be open during normal operation. Two alternative methods are provided for demonstrating compliance. Owners and operators can choose to demonstrate in-draft at each door using a vane anemometer, or may install a pressure gauge on the leeward wall to demonstrate that the building is maintained at a lower than ambient pressure.

C. Minimum Baghouse SOP Requirements

Comment: One petitioner (Docket ID No. IV–D–50) commented on the minimum requirements for the baghouse inspection and maintenance SOP. While agreeing that an appropriate inspection and maintenance program is critical to monitoring performance, they argued that the minimum requirements set forth by the rule were unrealistic and unnecessary in some cases. The petitioner indicated that the EPA underestimated the labor required to satisfy the minimum requirements. The petitioner also argued that frequent baghouse inspections would result in increased fugitive emissions (due to wear on door seals) and worker exposure.

Response: The EPA has reviewed the minimum requirements for the baghouse inspection and maintenance SOP, and the labor estimates provided by the petitioners. The labor estimates to complete the minimum inspection requirements are significantly higher than previously estimated. The EPA has revised § 63.548(c) to reflect a more realistic schedule. In addition, several of the requirements have been reworded to allow for alternatives to visual inspections where appropriate. The revised requirements, which still include continuous bag leak detection, will reduce the labor burden associated with baghouse inspections while still providing adequate protection of the environment.

D. Bag Leak Detection System Specifications and Requirements

Comment: Two petitioners (Docket ID No. IV–D–48, and IV–D–50) commented on the rules requirement that a compliance test be performed after any adjustments to the required bag leak detectors are made. One petitioner (Docket ID No. IV–D–48) stated that this requirement does not reflect the realities of normal operations and, as such, may cause unacceptable difficulties in practice. They further stated that all measurement instruments require calibration on a routine basis, with the calibration interval dependent upon the instrument's sensitivity and detection requirements. Without such sensitivity adjustments, the presence of drift may cause the system to operate improperly. The second petitioner (Docket ID No. IV–D–50) echoed the need for periodic adjustments to account for drift. They also commented that the requirement tying the adjustment to compliance testing ignores the actual operation of bag leak detectors. Because there is no set relationship between the particulate emissions, as measured by the unit, and lead emission levels, the bag leak detector is not a monitor of lead emissions. Rather, its purpose is to reveal bag leaks.

Response: Upon further consideration, the EPA agrees that periodic adjustment of the bag leak detector system may be necessary, and that adjustment of the bag leak detector should not be tied to compliance demonstrations. The intended use of the bag leak detector was as a process monitor, able to identify upset conditions in the baghouse operation. The EPA is concerned however, that unrestricted adjustment of the bag leak detector could result in improper use, possibly resulting in the alarm and sensitivity settings being set such that leaks or malfunctions could occur undetected. As such, the EPA has revised the bag leak system adjustment requirements to: (1) delink bag leak detector adjustment and compliance testing, (2) allow for routine minor adjustments to the detector system, (3) require owners and operators to identify in their baghouse SOP all routine adjustments expected, and (4) require that owners and operators perform a complete baghouse inspection to ensure proper operation of the baghouse prior to any significant adjustments to the sensitivity or range.

In addition, a requirement for annual compliance testing has been instated. Instating annual compliance testing should not result in a significant increase in compliance testing costs over those imposed in the promulgated rule. The EPA assumed that facilities would wish to adjust bag leak detection settings at least once a year, which as written, would have triggered compliance testing.

Comment: One petitioner (Docket ID No. IV–D–48) argued that the bag leak detection system detection capability requirement is too restrictive. Section 63.548(e)(1) requires that the bag detection system be able to detect emissions of particulate matter at 1.0 milligram per actual cubic meter or less. The petitioner argues that, since the bag leak detector system monitors PM rather than lead, the specification does not correlate to the emission limit in the rule. They also argue that the specification is unnecessary to ensure that a bag leak detection system is capable of detecting tears and/or leaks in baghouse bags. Furthermore, the petitioner noted concern that the specification is based on information provided by only one manufacturer of one type of bag leak detector.

Response: The EPA did not intend to tie the bag leak detector detection capability to the lead limit. The intent of the requirement was to set a minimum detection capability to ensure a minimum quality and capability of the detection systems to be used. Bag leak detection systems were being used at several secondary lead smelters. The detection capability was set based on what was believed to be the detection capability of the systems already being used at these smelters. Upon further review it was determined that the 1.0 milligram per actual cubic meter detection capability was actually the capability of the most sensitive bag leak detectors available, and was not representative of the bag leak detectors already in use at secondary lead smelters. The EPA is increasing the detection capability to 10 milligram per actual cubic meter which is more representative of the existing bag leak detectors, and still meets the EPA's purpose of ensuring systems capable of detecting baghouse upset conditions.

Comment: One petitioner (Docket ID No. IV–D–48) commented that some baghouses are equipped with HEPA filters. The petitioner believes that it is unnecessary and impractical to require bag leak detection systems for these units, and that requiring visual inspections of the HEPA units and review of operating readouts in accordance with an approved SOP is fully protective of human health and the environment.

Response: The EPA acknowledges that some baghouses are equipped with HEPA filters which act as a secondary filter, and that these secondary filters may provide improved protection from bag leaks. The EPA also agrees that the use of a bag leak detector on such a system would likely provide little if any additional protection over proper inspection and monitoring of operating parameters (such as pressure drop). As such, the EPA is adding § 63.548(g) to exempt baghouses equipped with secondary HEPA filters from the bag leak detection requirement and add alternative monitoring requirements for these systems.

Comment: One commenter (Docket ID No. IV–D–50) argued that the requirement for bag leak detectors on all baghouses for process, process fugitive, and fugitive emissions is excessive. They contend that there are applications, particularly baghouses used to control particulate from building ventilation, in which units will not function due to the nature of the particulate.

Response: Upon further review, the EPA agrees that bag leak detectors will provide little to no useful information on baghouses used to control fugitive dust emissions from building ventilation. This is due to the low inlet loadings associated with these systems. As such, the EPA is adding § 63.548(h) to exempt baghouses used to control fugitive dust emissions from the bag leak detection requirement. Owners and operators are still required to develop and adhere to a SOP for the operation and maintenance of these baghouses that meets the minimum requirements specified in § 63.548(c).

V. Administrative Requirements

A. Docket

The docket is an organized and complete file of all the information considered by the EPA in the development of this rulemaking. The docket is a dynamic file, since material is added throughout the rulemaking development. The docket system is intended to allow members of the public and affected industries to readily identify and locate documents so that they can effectively participate in the rulemaking process. Along with the BID's and preambles to the proposed and promulgated standards, the contents of the docket will serve as the official record in case of judicial review (section 307(d)(7)(A) of the Act).

B. Executive Order 12866

The Agency must determine whether a regulatory action is ''significant'' and therefore subject to OMB review and the requirements of the E.O. 12866, (58 FR 51735, October 4, 1993). The Executive Order defines ''significant regulatory action'' as one that is likely to result in a rule that may:

(1) Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;

(2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;

(3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs, or the rights and obligations of recipients thereof; or

(4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

It has been determined that this amendment to the final rule is not a ''significant regulatory action'' under the terms of the Executive Order and is therefore not subject to OMB review.

C. Unfunded Mandates Act

Section 202 of the Unfunded Mandates Reform Act of 1995 (''Unfunded Mandates Act'') requires that the Agency prepare a budgetary impact statement before promulgating a rule that includes a Federal mandate that may result in expenditure by State, local, and tribal governments, in aggregate, or by the private sector, of $100 million or more in any 1 year. Section 203 requires the Agency to establish a plan for obtaining input from and informing, educating, and advising any small governments that may be significantly or uniquely affected by the rule.

Under section 205 of the Unfunded Mandates Act, the Agency must identify and consider a reasonable number of regulatory alternatives before promulgating a rule for which a budgetary impact statement must be prepared. The Agency must select from those alternatives the least costly, most cost-effective, or least burdensome alternative that achieves the objectives of the rule, unless the Agency explains why this alternative is not selected or the selection of this alternative is inconsistent with law.

This amendment reduces the costs of complying with the final rule, it will not increase expenditures by State, local, and tribal governments or the private sector. Therefore, the Agency has not prepared a budgetary impact statement or specifically addressed the selection of the least costly, most cost-effective, or least burdensome alternative. Because small governments will not be significantly or uniquely affected by this rule, the Agency is not required to develop a plan with regard to small governments.

D. Paperwork Reduction Act

Under the Paperwork Reduction Act, 44 U.S.C 3501 *et seq.*, the EPA must consider the paperwork burden imposed by any information collection request in a proposed or final rule. This amendment to the rule will not impose any new information collection requirements.

E. Regulatory Flexibility Act

The Regulatory Flexibility Act (or RFA, Public Law 96–354, September 19, 1980) requires Federal agencies to give special consideration to the impact of regulation on small businesses. The RFA specifies that a regulatory flexibility analysis must be prepared if a screening analysis indicates a regulation will have a significant economic impact on a substantial number of small entities. EPA has determined that it is not necessary to prepare a regulatory flexibility analysis in connection with this final rule. EPA has also determined that this rule will not have a significant economic impact on a substantial number of small entities. This amendment will not result in increased economic impacts to small entities, and will result in reduced impacts in all cases.

F. Submission to Congress and the General Accounting Office

Under 5 U.S.C. 801(a)(1)(A) as added by the Small Business Regulatory Enforcement Fairness Act of 1996, the EPA submitted a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives and the Comptroller General of the General Accounting Office prior to publication of the rule in today's **Federal Register**. This amendment is not a ''major rule'' as defined by 5 U.S.C. 804(2).

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements, Secondary lead smelters.

Dated: June 4, 1997.

Carol M. Browner,

Administrator.

For the reasons set out in the preamble, title 40, chapter I, of the Code of Federal Regulations is amended as follows:

PART 63—[AMENDED]

1. The authority citation for part 63 continues to read as follows:

Authority: 42 U.S.C. 7401 *et seq.*

2. Part 63 subpart X is revised to read as follows:

Subpart X—National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting

Subpart X—National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting

§ 63.541 Applicability.

(a) The provisions of this subpart apply to the following affected sources at all secondary lead smelters: blast, reverberatory, rotary, and electric smelting furnaces; refining kettles; agglomerating furnaces; dryers; process fugitive sources; and fugitive dust sources. The provisions of this subpart do not apply to primary lead smelters, lead refiners, or lead remelters.

(b) Table 1 of this subpart specifies the provisions of subpart A that apply and those that do not apply to owners and operators of secondary lead smelters subject to this subpart.

TABLE 1.—GENERAL PROVISIONS APPLICABILITY TO SUBPART X

Reference	Applies to subpart X	Comment
63.1	Yes.	
63.2	Yes.	
63.3	Yes.	
63.4	Yes.	
63.5	Yes.	
63.6 (a), (b), (c), (e), (f), (g), (i) and (j)	Yes.	
63.6 (d) and (h)	No	No opacity limits in rule.
63.7	Yes.	
63.8	Yes.	
63.9 (a), (b), (c), (d), (e), (g), (h)(1–3), (h)(5–6), and (j)	Yes.	
63.9 (f) and (h)(4)	No	No opacity or visible emission limits in subpart X.
63.10	Yes.	
63.11	No	Flares will not be used to comply with the emission limits.
63.12 to 63.15	Yes.	

§ 63.542 Definitions.

Terms used in this subpart are defined in the Act, in subpart A of this part, or in this section as follows:

Agglomerating furnace means a furnace used to melt into a solid mass flue dust that is collected from a baghouse.

Bag leak detection system means an instrument that is capable of monitoring particulate matter (dust) loadings in the exhaust of a baghouse in order to detect bag failures. A bag leak detection system includes, but is not limited to, an instrument that operates on triboelectric, light scattering, transmittance or other effect to monitor relative particulate matter loadings.

Battery breaking area means the plant location at which lead-acid batteries are broken, crushed, or disassembled and separated into components.

Blast furnace means a smelting furnace consisting of a vertical cylinder atop a crucible, into which lead-bearing charge materials are introduced at the top of the furnace and combustion air is introduced through tuyeres at the bottom of the cylinder, and that uses coke as a fuel source and that is operated at such a temperature in the combustion zone (greater than 980 °C) that lead compounds are chemically reduced to elemental lead metal.

Blast furnace charging location means the physical opening through which raw materials are introduced into a blast furnace.

Collocated blast furnace and reverberatory furnace means operation at the same location of a blast furnace and a reverberatory furnace with the volumetric flow rate discharged from the blast furnace being at equal to or less than that discharged from the reverberatory furnace.

Dryer means a chamber that is heated and that is used to remove moisture from lead-bearing materials before they are charged to a smelting furnace.

Dryer transition piece means the junction between a dryer and the charge hopper or conveyor, or the junction between the dryer and the smelting furnace feed chute or hopper located at the ends of the dryer.

Electric furnace means a smelting furnace consisting of a vessel into which reverberatory furnace slag is introduced and that uses electrical energy to heat the reverberatory furnace slag to such a temperature (greater than 980 °C) that lead compounds are reduced to elemental lead metal.

Enclosure hood means a hood that covers a process fugitive emission source on the top and on all sides, with openings only for access to introduce or remove materials to or from the source and through which an induced flow of air is ventilated.

Fugitive dust source means a stationary source of hazardous air pollutant emissions at a secondary lead smelter that is not associated with a specific process or process fugitive vent or stack. Fugitive dust sources include, but are not limited to, roadways, storage piles, materials handling transfer points, materials transport areas, storage areas, process areas, and buildings.

Furnace and refining/casting area means any area of a secondary lead smelter in which:

(1) Smelting furnaces are located; or

(2) Refining operations occur; or

(3) Casting operations occur.

High efficiency particulate air (HEPA) filter means a filter that has been certified by the manufacturer to remove 99.97 percent of all particles 0.3 micrometers and larger.

Lead alloy means an alloy in which the predominant component is lead.

Materials storage and handling area means any area of a secondary lead smelter in which lead-bearing materials (including, but not limited to, broken battery components, reverberatory furnace slag, flue dust, and dross) are stored or handled between process steps including, but not limited to, areas in which materials are stored in piles, bins, or tubs, and areas in which material is prepared for charging to a smelting furnace. Materials storage and handling area does not include areas used exclusively for storage of blast furnace slag.

Partial enclosure means a structure comprised of walls or partitions on at least three sides or three-quarters of the perimeter surrounding stored materials or process equipment to prevent the entrainment of particulate matter into the air.

Pavement cleaning means the use of vacuum equipment, water sprays, or a combination thereof to remove dust or other accumulated material from the paved areas of a secondary lead smelter.

Plant roadway means any area of a secondary lead smelter that is subject to vehicle traffic, including traffic by fork lifts, front-end loaders, or vehicles carrying whole batteries or cast lead ingots. Excluded from this definition are employee and visitor parking areas, provided they are not subject to traffic by vehicles carrying lead-bearing materials.

Process fugitive emission source means a source of hazardous air pollutant emissions at a secondary lead smelter that is associated with lead smelting or refining, but is not the primary exhaust stream from a smelting furnace, and is not a fugitive dust source. Process fugitive sources include, but are not limited to, smelting furnace charging points, smelting furnace lead and slag taps, refining kettles, agglomerating furnaces, and drying kiln transition pieces.

Refining kettle means an open-top vessel that is constructed of cast iron or steel and is indirectly heated from below and contains molten lead for the purpose of refining and alloying the lead. Included are pot furnaces, receiving kettles, and holding kettles.

Reverberatory furnace means a refractory-lined furnace that uses one or more flames to heat the walls and roof of the furnace and lead-bearing scrap to such a temperature (greater than 980 °C) that lead compounds are chemically reduced to elemental lead metal.

Rotary furnace (also known as a rotary reverberatory furnace) means a furnace consisting of a refractory-lined chamber that rotates about a horizontal axis and that uses one or more flames to heat the walls of the furnace and lead-bearing scrap to such a temperature (greater than 980 °C) that lead compounds are chemically reduced to elemental lead metal.

Secondary lead smelter means any facility at which lead-bearing scrap material, primarily, but not limited to, lead-acid batteries, is recycled into elemental lead or lead alloys by smelting.

Smelting means the chemical reduction of lead compounds to elemental lead or lead alloys through processing in high-temperature (greater than 980 °C) furnaces including, but not limited to, blast furnaces, reverberatory furnaces, rotary furnaces, and electric furnaces.

Total enclosure means a roofed and walled structure with limited openings to allow access and egress for people and vehicles that meets the requirements of 40 CFR 265.1101(a)(1), (a)(2)(i), and (c)(1)(i).

Vehicle wash means a device for removing dust and other accumulated material from the wheels, body, and underside of a vehicle to prevent the inadvertent transfer of lead contaminated material to another area of a secondary lead smelter or to public roadways.

Wet suppression means the use of water, water combined with a chemical surfactant, or a chemical binding agent to prevent the entrainment of dust into the air from fugitive dust sources.

§ 63.543 Standards for process sources.

(a) No owner or operator of a secondary lead smelter shall discharge or cause to be discharged into the atmosphere from any existing, new, or reconstructed blast, reverberatory, rotary, or electric smelting furnace any gases that contain lead compounds in excess of 2.0 milligrams of lead per dry standard cubic meter (0.00087 grains of lead per dry standard cubic foot).

(b) [Reserved]

(c) No owner or operator of a secondary lead smelter with a collocated blast furnace and reverberatory furnace shall discharge or cause to be discharged into the atmosphere from any existing, new, or reconstructed blast furnace or reverberatory furnace any gases that contain total hydrocarbons in excess of 20 parts per million by volume, expressed as propane corrected to 4 percent carbon dioxide, except as allowed under Paragraphs (c)(1) and (c)(2) of this section.

(1) No owner or operator of a secondary lead smelter with a collocated blast furnace and reverberatory furnace shall discharge or cause to be discharged into the atmosphere from any existing blast furnace any gases that contain total hydrocarbons in excess of 360 parts per million by volume, expressed as propane corrected to 4 percent carbon dioxide, during periods when the reverberatory furnace is not operating.

(2) No owner or operator of a secondary lead smelter with a collocated blast furnace and reverberatory furnace shall discharge or cause to be discharged into the atmosphere from any blast furnace that commences construction or reconstruction after June 9, 1994, any gases that contain total hydrocarbons in excess of 70 parts per million by volume, expressed as propane corrected to 4 percent carbon dioxide, during periods when the reverberatory furnace is not operating.

(d) No owner or operator of a secondary lead smelter with only blast furnaces shall discharge or cause to be discharged into the atmosphere from any existing blast furnace any gases that contain total hydrocarbons in excess of 360 parts per million by volume, expressed as propane corrected to 4 percent carbon dioxide.

(e) No owner or operator of a secondary lead smelter with only blast furnaces shall discharge or cause to be discharged into the atmosphere from any blast furnace that commences construction or reconstruction after June 9, 1994, any gases that contain total hydrocarbons in excess of 70 parts per million by volume, expressed as propane corrected to 4 percent carbon dioxide.

(f) If the owner or operator of a blast furnace or collocated blast furnace and reverberatory furnace combines the blast furnace charging process fugitive emissions with the blast furnace process emissions and discharges them to the atmosphere through a common emission point, then compliance with the applicable total hydrocarbon concentration limit under paragraph (c) of this section shall be determined downstream from the point at which the two emission streams are combined.

(g) If the owner or operator of a blast furnace or a collocated blast furnace and reverberatory furnace does not combine the blast furnace charging process fugitive emissions with the blast furnace process emissions and discharges such emissions to the atmosphere through separate emission points, then the total hydrocarbon emission rate for the blast furnace process fugitive emissions shall not be greater than 0.20 kilograms per hour (0.44 pounds per hour).

(h) Except as provided in paragraph (i) of this section, following the initial test to demonstrate compliance with paragraph (a) of this section, the owner or operator of a secondary lead smelter shall conduct a compliance test for lead compounds on an annual basis (no later than 12 calendar months following the previous compliance test).

(i) If a compliance test demonstrates a source emitted lead compounds at 1.0 milligram of lead per dry standard cubic meter (0.00044 grains of lead per dry standard cubic foot) or less during the time of the compliance test, the owner or operator of a secondary lead smelter shall be allowed up to 24 calendar months from the previous compliance test to conduct the next annual compliance test for lead compounds.

(j) The standards for process sources are summarized in table 2.

TABLE 2.—SUMMARY OF STANDARDS FOR PROCESS SOURCES

Furnace configuration	Lead compounds (milligrams per dry standard cubic meter)	Total hydrocarbons	Citation
Collocated blast furnace and reverberatory furnace:			
When both furnaces operating	2.0	20 parts per million by volume[1]	§ 63.543(a),(c).
When reverberatory furnace not operating	2.0	360 parts per million by volume[1] (existing)	§ 63.543(a),(c)(1).
		70 parts per million by volume[1] (new)[2]	§ 63.543(a),(c)(2).
Blast	2.0	360 parts per million by volume[1] (existing)	§ 63.543(a),(d).
		70 parts per million by volume[1] (new)[2]	§ 63.543(e).
		0.20 kilograms per hour[3]	§ 63.543(g).
Reverberatory, rotary, and electric	2.0	Not applicable	§ 63.543(a).

[1] Total hydrocarbons emission limits are as propane at 4 percent carbon dioxide to correct for dilution, based on a 3-hour average.
[2] New sources include those furnaces that commence construction or reconstruction after June 9, 1994.
[3] Applicable to blast furnace charging process fugitive emissions that are not combined with the blast furnace process emissions prior to the point at which compliance with the total hydrocarbons concentration standard is determined.

§ 63.544 Standards for process fugitive sources.

(a) Each owner or operator of a secondary lead smelter shall control the process fugitive emission sources listed in paragraphs (a)(1) through (a)(6) of this section in accordance with the equipment and operational standards presented in paragraphs (b) and (c) of this section.

(1) Smelting furnace and dryer charging hoppers, chutes, and skip hoists;

(2) Smelting furnace lead taps, and molds during tapping;

(3) Smelting furnace slag taps, and molds during tapping;

(4) Refining kettles;

(5) Dryer transition pieces; and

(6) Agglomerating furnace product taps.

(b) Process fugitive emission sources shall be equipped with an enclosure hood meeting the requirements of paragraphs (b)(1), (b)(2), or (b)(3) of this section, or be located in a total enclosure subject to general ventilation that maintains the building at a lower than ambient pressure to ensure in-draft through any doorway opening.

(1) All process fugitive enclosure hoods except those specified for refining kettles and dryer transition pieces shall be ventilated to maintain a face velocity of at least 90 meters per minute (300 feet per minute) at all hood openings.

(2) Process fugitive enclosure hoods required for refining kettles in paragraph (a) of this section shall be ventilated to maintain a face velocity of at least 75 meters per minute (250 feet per minute).

(3) Process fugitive enclosure hoods required over dryer transition pieces in paragraph (a) of this section shall be ventilated to maintain a face velocity of at least 110 meters per minute (350 feet per minute).

(c) Ventilation air from all enclosures hoods and total enclosures shall be conveyed to a control device. Gases discharged to the atmosphere from these control devices shall not contain lead compounds in excess of 2.0 milligrams of lead per dry standard cubic meter (0.00087 grains per dry standard cubic foot).

(d) All dryer emission vents and agglomerating furnace emission vents shall be ventilated to a control device that shall not discharge to the atmosphere any gases that contain lead compounds in excess of 2.0 milligrams of lead per dry standard cubic meter (0.00087 grains per dry standard cubic foot).

(e) Except as provided in paragraph (f) of this section, following the date of the initial test to demonstrate compliance with paragraphs (c) and (d) of this section, the owner or operator of a secondary lead smelter shall conduct a compliance test for lead compounds on an annual basis (no later than 12 calendar months following the previous compliance test).

(f) If a compliance test demonstrates a source emitted lead compounds at 1.0 milligram of lead per dry standard cubic meter (0.00044 grains of lead per dry standard cubic foot) or less during the time of the compliance test, the owner or operator of a secondary lead smelter shall be allowed up to 24 calendar months from the previous compliance test to conduct the next annual compliance test for lead compounds.

(g) The standards for process fugitive sources are summarized in table 3.

TABLE 3.—SUMMARY OF STANDARDS FOR PROCESS FUGITIVE SOURCES

Fugitive emission source	Control device lead compound emission limit (milligrams per dry standard cubic meter)	Enclosed hood or doorway face velocity (meters/minute)	Citation
Control Option I			
Smelting furnace and dryer charging hoppers, chutes, and skip hoists	2.0	[1] 90	§ 63.544 (b), (c).
Smelting furnace lead taps and molds during tapping	2.0	[1] 90	§ 63.544 (b), (c).

TABLE 3.—SUMMARY OF STANDARDS FOR PROCESS FUGITIVE SOURCES—Continued

Fugitive emission source	Control device lead compound emission limit (milligrams per dry standard cubic meter)	Enclosed hood or doorway face velocity (meters/minute)	Citation
Smelting furnace slag taps and molds during tapping	2.0	[1] 90	§ 63.544 (b), (c).
Refining kettles	2.0	[1] 75	§ 63.544 (b), (c).
Dryer transition pieces	2.0	[1] 110	§ 63.544 (b), (c).
Agglomerating furnace process vents and product taps	2.0	[1] 90	§ 63.544 (b), (c).
Control Option II			
Enclosed building ventilated to a control device	2.0	....	§ 63.544 (b), (c).
Applicable to Both Control Options			
Dryer and agglomerating furnace emission vents	2.0	....	§ 63.544(d).

[1] Enclosure hood face velocity applicable to those process fugitive sources not located in an enclosed building ventilated to a control device.

§ 63.545 Standards for fugitive dust sources.

(a) Each owner or operator of a secondary lead smelter shall prepare and at all times operate according to a standard operating procedures manual that describes in detail the measures that will be put in place to control fugitive dust emission sources within the areas of the secondary lead smelter listed in paragraphs (a)(1) through (a)(5) of this section.

(1) Plant roadways;

(2) Battery breaking area;

(3) Furnace area;

(4) Refining and casting area; and

(5) Materials storage and handling area.

(b) The standard operating procedures manual shall be submitted to the Administrator or delegated authority for review and approval.

(c) The controls specified in the standard operating procedures manual shall at a minimum include the requirements of paragraphs (c)(1) through (c)(5) of this section.

(1) Plant roadways—paving of all areas subject to vehicle traffic and pavement cleaning twice per day of those areas, except on days when natural precipitation makes cleaning unnecessary or when sand or a similar material has been spread on plant roadways to provide traction on ice or snow.

(2) Battery breaking area—partial enclosure of storage piles, wet suppression applied to storage piles with sufficient frequency and quantity to prevent the formation of dust, and pavement cleaning twice per day; or total enclosure of the battery breaking area.

(3) Furnace area—partial enclosure and pavement cleaning twice per day; or total enclosure and ventilation of the enclosure to a control device.

(4) Refining and casting area—partial enclosure and pavement cleaning twice per day; or total enclosure and ventilation of the enclosure to a control device.

(5) Materials storage and handling area—partial enclosure of storage piles, wet suppression applied to storage piles with sufficient frequency and quantity to prevent the formation of dust, vehicle wash at each exit from the area, and paving of the area; or total enclosure of the area and ventilation of the enclosure to a control device, and a vehicle wash at each exit.

(d) The standard operating procedures manual shall require that daily records be maintained of all wet suppression, pavement cleaning, and vehicle washing activities performed to control fugitive dust emissions.

(e) No owner or operator of a secondary lead smelter shall discharge or cause to be discharged into the atmosphere from any building or enclosure ventilation system any gases that contain lead compounds in excess of 2.0 milligrams of lead per dry standard cubic meter (0.00087 grains of lead per dry standard cubic foot).

§ 63.546 Compliance dates.

(a) Each owner or operator of an existing secondary lead smelter shall achieve compliance with the requirements of this subpart no later than December 23, 1997.

(b) Each owner or operator of a secondary lead smelter that commences construction or reconstruction after June 9, 1994, shall achieve compliance with the requirements of this subpart by June 13, 1997 or upon startup of operations, whichever is later.

§ 63.547 Test methods.

(a) The following test methods in appendix A of part 60 listed in paragraphs (a)(1) through (a)(5) of this section shall be used to determine compliance with the emission standards for lead compounds under §§ 63.543(a), 63.544 (c), and (d), and 63.545(e):

(1) Method 1 shall be used to select the sampling port location and the number of traverse points.

(2) Method 2 shall be used to measure volumetric flow rate.

(3) Method 3 shall be used for gas analysis to determine the dry molecular weight of the stack gas.

(4) Method 4 shall be used to determine moisture content of the stack gas.

(5) Method 12 shall be used to determine compliance with the lead compound emission standards. The minimum sample volume shall be 0.85 dry standard cubic meters (30 dry standard cubic feet) and the minimum sampling time shall be 60 minutes for each run. Three runs shall be performed and the average of the three runs shall be used to determine compliance.

(b) The following test methods in appendix A of part 60 listed in paragraphs (b)(1) through (b)(5) of this section shall be used, as specified, to determine compliance with the emission standards for total hydrocarbons under § 63.543 (c), (d), (e), and (g):

(1) Method 1 shall be used to select the sampling port location to determine compliance under § 63.543(c), (d), (e), and (g).

(2) Method 2 shall be used to measure volumetric flow rate to determine compliance under § 63.543(g).

(3) The Single Point Integrated Sampling and Analytical Procedure of Method 3B shall be used to measure the carbon dioxide content of the stack gases to determine compliance under § 63.543 (c), (d), and (e).

(4) Method 4 shall be used to measure moisture content of the stack gases to determine compliance under § 63.543 (c), (d), (e), and (g).

(5) Method 25A shall be used to measure total hydrocarbon emissions to determine compliance under § 63.543 (c), (d), (e), and (g). The minimum sampling time shall be 1 hour for each run. A minimum of three runs shall be performed. A 1-hour average total hydrocarbon concentration shall be determined for each run and the average of the three 1-hour averages shall be used to determine compliance. The total hydrocarbon emissions concentrations for determining compliance under § 63.543(c), (d), and (e) shall be expressed as propane and shall be corrected to 4 percent carbon dioxide, as described in paragraph (c) of this section.

(c) For the purposes of determining compliance with the emission limits under § 63.543 (c), (d), and (e), the measured total hydrocarbon concentrations shall be corrected to 4 percent carbon dioxide as listed in paragraphs (c)(1) through (c)(2) of this section in the following manner:

(1) If the measured percent carbon dioxide is greater than 0.4 percent in each compliance test, the correction factor shall be determined by using equation (1).

$$F = \frac{4.0}{CO_2} \qquad (1)$$

where:

F = correction factor (no units)

CO_2 = percent carbon dioxide measured using Method 3B, where the measured carbon dioxide is greater than 0.4 percent.

(2) If the measured percent carbon dioxide is equal to or less than 0.4 percent, then a correction factor (F) of 10 shall be used.

(3) The corrected total hydrocarbon concentration shall be determined by multiplying the measured total hydrocarbon concentration by the correction factor (F) determined for each compliance test.

(d) Compliance with the face velocity requirements under § 63.544(b) for process fugitive enclosure hoods shall be determined by the following test methods in paragraphs (d)(1) or (d)(2) of this section.

(1) Owners and operators shall calculate face velocity using the procedures in paragraphs (d)(1)(i) through (d)(1)(iv) of this section.

(i) Method 1 shall be used to select the sampling port location in the duct leading from the process fugitive enclosure hood to the control device.

(ii) Method 2 shall be used to measure the volumetric flow rate in the duct from the process fugitive enclosure hood to the control device.

(iii) The face area of the hood shall be determined from measurement of the hood. If the hood has access doors, then face area shall be determined with the access doors in the position they are in during normal operating conditions.

(iv) Face velocity shall be determined by dividing the volumetric flow rate determined in paragraph (d)(1)(ii) of this section by the total face area for the hood determined in paragraph (d)(1)(iii) of this section.

(2) The face velocity shall be measured directly using the procedures in paragraphs (d)(2)(i) through (d)(2)(v) of this section.

(i) A propeller anemometer or equivalent device shall be used to measure hood face velocity.

(ii) The propeller of the anemometer shall be made of a material of uniform density and shall be properly balanced to optimize performance.

(iii) The measurement range of the anemometer shall extend to at least 300 meters per minute (1,000 feet per minute).

(iv) A known relationship shall exist between the anemometer signal output and air velocity, and the anemometer must be equipped with a suitable readout system.

(v) Hood face velocity shall be determined for each hood open during normal operation by placing the anemometer in the plane of the hood opening. Access doors shall be positioned consistent with normal operation.

(e) Owners and operators shall determine compliance with the doorway in-draft requirement for enclosed buildings in § 63.544(b) using the procedures in paragraphs (e)(1) or (e)(2) of this section.

(1)(i) Owners and operators shall use a propeller anemometer or equivalent device meeting the requirements of paragraphs (d)(2)(ii) through (d)(2)(iv) of this section.

(ii) Doorway in-draft shall be determined by placing the anemometer in the plane of the doorway opening near its center.

(iii) Doorway in-draft shall be demonstrated for each doorway that is open during normal operation with all remaining doorways in the position they are in during normal operation.

(2)(i) Owners and operators shall install a differential pressure gage on the leeward wall of the building to measure the pressure difference between the inside and outside of the building.

(ii) The pressure gage shall be certified by the manufacturer to be capable of measuring pressure differential in the range of 0.02 to 0.2 mm Hg.

(iii) Both the inside and outside taps shall be shielded to reduce the effects of wind.

(iv) Owners and operators shall demonstrate the inside of the building is maintained at a negative pressure as compared to the outside of the building of no less than 0.02 mm Hg when all doors are in the position they are in during normal operation.

§ 63.548 Monitoring requirements.

(a) Owners and operators of secondary lead smelters shall prepare, and at all times operate according to, a standard operating procedures manual that describes in detail procedures for inspection, maintenance, and bag leak detection and corrective action plans for all baghouses (fabric filters) that are used to control process, process fugitive, or fugitive dust emissions from any source subject to the lead emission standards in §§ 63.543, 63.544, and 63.545, including those used to control emissions from building ventilation. This provision shall not apply to process fugitive sources that are controlled by wet scrubbers.

(b) The standard operating procedures manual for baghouses required by paragraph (a) of this section shall be submitted to the Administrator or delegated authority for review and approval.

(c) The procedures specified in the standard operating procedures manual for inspections and routine maintenance shall, at a minimum, include the requirements of paragraphs (c)(1) through (c)(9) of this section.

(1) Daily monitoring of pressure drop across each baghouse cell.

(2) Weekly confirmation that dust is being removed from hoppers through visual inspection, or equivalent means of ensuring the proper functioning of removal mechanisms.

(3) Daily check of compressed air supply for pulse-jet baghouses.

(4) An appropriate methodology for monitoring cleaning cycles to ensure proper operation.

(5) Monthly check of bag cleaning mechanisms for proper functioning through visual inspection or equivalent means.

(6) Monthly check of bag tension on reverse air and shaker-type baghouses. Such checks are not required for shaker-type baghouses using self-tensioning (spring loaded) devices.

(7) Quarterly confirmation of the physical integrity of the baghouse through visual inspection of the baghouse interior for air leaks.

(8) Quarterly inspection of fans for wear, material buildup, and corrosion

through visual inspection, vibration detectors, or equivalent means.

(9) Except as provided in paragraphs (g) and (h) of this section, continuous operation of a bag leak detection system.

(d) The procedures specified in the standard operating procedures manual for maintenance shall, at a minimum, include a preventative maintenance schedule that is consistent with the baghouse manufacturer's instructions for routine and long-term maintenance.

(e) The bag leak detection system required by paragraph (a)(9) of this section, shall meet the specifications and requirements of paragraphs (e)(1) through (e)(8) of this section.

(1) The bag leak detection system must be certified by the manufacturer to be capable of detecting particulate matter emissions at concentrations of 10 milligram per actual cubic meter (0.0044 grains per actual cubic foot) or less.

(2) The bag leak detection system sensor must provide output of relative particulate matter loadings.

(3) The bag leak detection system must be equipped with an alarm system that will alarm when an increase in relative particulate loadings is detected over a preset level.

(4) The bag leak detection system shall be installed and operated in a manner consistent with available written guidance from the U.S. Environmental Protection Agency or, in the absence of such written guidance, the manufacturer's written specifications and recommendations for installation, operation, and adjustment of the system.

(5) The initial adjustment of the system shall, at a minimum, consist of establishing the baseline output by adjusting the sensitivity (range) and the averaging period of the device, and establishing the alarm set points and the alarm delay time.

(6) Following initial adjustment, the owner or operator shall not adjust the sensitivity or range, averaging period, alarm set points, or alarm delay time, except as detailed in the approved SOP required under paragraph (a) of this section. In no event shall the sensitivity be increased by more than 100 percent or decreased more than 50 percent over a 365 day period unless such adjustment follows a complete baghouse inspection which demonstrates the baghouse is in good operating condition.

(7) For negative pressure, induced air baghouses, and positive pressure baghouses that are discharged to the atmosphere through a stack, the bag leak detector must be installed downstream of the baghouse and upstream of any wet acid gas scrubber.

(8) Where multiple detectors are required, the system's instrumentation and alarm may be shared among detectors.

(f) The standard operating procedures manual required by paragraph (a) of this section shall include a corrective action plan that specifies the procedures to be followed in the case of a bag leak detection system alarm. The corrective action plan shall include, at a minimum, the procedures used to determine and record the time and cause of the alarm as well as the corrective actions taken to correct the control device malfunction or minimize emissions as specified in paragraphs (f)(1) and (f)(2) of this section.

(1) The procedures used to determine the cause of the alarm must be initiated within 30 minutes of the alarm.

(2) The cause of the alarm must be alleviated by taking the necessary corrective action(s) which may include, but not be limited to, paragraphs (f)(2)(i) through (f)(2)(vi) of this section.

(i) Inspecting the baghouse for air leaks, torn or broken filter elements, or any other malfunction that may cause an increase in emissions.

(ii) Sealing off defective bags or filter media.

(iii) Replacing defective bags or filter media, or otherwise repairing the control device.

(iv) Sealing off a defective baghouse compartment.

(v) Cleaning the bag leak detection system probe, or otherwise repairing the bag leak detection system.

(vi) Shutting down the process producing the particulate emissions.

(g) Baghouses equipped with HEPA filters as a secondary filter used to control process, process fugitive, or fugitive dust emissions from any source subject to the lead emission standards in § 63.543, 63.544, or 63.545 are exempt from the requirement in § 63.548(c)(9) of this section to be equipped with a bag leak detector. The owner or operator of an affected source that uses a HEPA filter shall monitor and record the pressure drop across the HEPA filter system daily. If the pressure drop is outside the limit(s) specified by the filter manufacturer, the owner or operator must take appropriate corrective measures, which may include but not be limited to those given in paragraphs (g)(1) through (g)(4) of this section.

(1) Inspecting the filter and filter housing for air leaks and torn or broken filters.

(2) Replacing defective filter media, or otherwise repairing the control device.

(3) Sealing off a defective control device by routing air to other control devices.

(4) Shutting down the process producing the particulate emissions.

(h) Baghouses that are used exclusively for the control of fugitive dust emissions from any source subject to the lead emissions standard in § 63.545 are exempt from the requirement in § 63.548(c)(9) of this section to be equipped with a bag leak detector.

(i) The owner or operator of a secondary lead smelter that uses a wet scrubber to control particulate matter and metal hazardous air pollutant emissions from a process fugitive source shall monitor and record the pressure drop and water flow rate of the wet scrubber during the initial test to demonstrate compliance with the lead emission limit under § 63.544(c) and (d). Thereafter, the owner or operator shall monitor and record the pressure drop and water flow rate at least once every hour and shall maintain the pressure drop and water flow rate no lower than 30 percent below the pressure drop and water flow rate measured during the initial compliance test.

(j) The owner or operator of a blast furnace or collocated blast furnace and reverberatory furnace subject to the total hydrocarbon standards in § 63.543 (c), (d), or (e), must comply with the requirements of either paragraph (j)(1) or (j)(2) of this section, to demonstrate continuous compliance with the total hydrocarbon emission standards.

(1) *Continuous Temperature Monitoring.* (i) The owner or operator of a blast furnace or a collocated blast furnace and reverberatory furnace subject to the total hydrocarbon emission standards in § 63.543 (c), (d), or (e) shall install, calibrate, maintain, and continuously operate a device to monitor and record the temperature of the afterburner or the combined blast furnace and reverberatory furnace exhaust streams consistent with the requirements for continuous monitoring systems in subpart A, General Provisions.

(ii) Prior to or in conjunction with the initial compliance test to determine compliance with § 63.543 (c), (d), or (e), the owner or operator shall conduct a performance evaluation for the temperature monitoring device according to § 63.8(e) of the General Provisions. The definitions, installation specifications, test procedures, and data reduction procedures for determining calibration drift, relative accuracy, and reporting described in Performance Specification 2, 40 CFR Part 60, Appendix B, Sections 2, 3, 5, 7, 8, 9, and

10 shall be used to conduct the evaluation. The temperature monitoring device shall meet the following performance and equipment specifications:

(A) The recorder response range must include zero and 1.5 times the average temperature identified in paragraph (j)(1)(iii) of this section.

(B) The monitoring system calibration drift shall not exceed 2 percent of 1.5 times the average temperature identified in paragraph (j)(1)(iii) of this section.

(C) The monitoring system relative accuracy shall not exceed 20 percent.

(D) The reference method shall be an National Institute of Standards and Technology calibrated reference thermocouple-potentiometer system or an alternate reference, subject to the approval of the Administrator.

(iii) The owner or operator of a blast furnace or a collocated blast furnace and reverberatory furnace subject to the total hydrocarbon emission standards shall monitor and record the temperature of the afterburner or the combined blast furnace and reverberatory furnace exhaust streams every 15 minutes during the total hydrocarbon compliance test and determine an arithmetic average for the recorded temperature measurements.

(iv) To remain in compliance with the standards for total hydrocarbons, the owner or operator must maintain an afterburner or combined exhaust temperature such that the average temperature in any 3-hour period does not fall more than 28 °C (50 °F) below the average established in paragraph (j)(1)(iii) of this section. An average temperature in any 3-hour period that falls more than 28 °C (50 °F) below the average established in paragraph (j)(1)(iii) of this section, shall constitute a violation of the applicable emission standard for total hydrocarbons under § 63.543 (c), (d), or (e).

(2) *Continuous Monitoring of Total Hydrocarbon Emissions.* (i) The owner or operator of a secondary lead smelter shall install, operate, and maintain a total hydrocarbon continuous monitoring system and comply with all of the requirements for continuous monitoring systems found in subpart A, General Provisions.

(ii) Prior to or in conjunction with the initial compliance test to determine compliance with § 63.543 (c), (d), or (e), the owner or operator shall conduct a performance evaluation for the total hydrocarbon continuous monitoring system according to § 63.8(e) of the General Provisions. The monitor shall meet the performance specifications of Performance Specification 8, 40 CFR Part 60, Appendix B.

(iii) Allowing the 3-hour average total hydrocarbon concentration to exceed the applicable total hydrocarbon emission limit under § 63.543 shall constitute a violation of the applicable emission standard for total hydrocarbons under § 63.543 (c), (d), or (e).

§ 63.549 Notification requirements.

(a) The owner or operator of a secondary lead smelter shall comply with all of the notification requirements of § 63.9 of subpart A, General Provisions.

(b) The owner or operator of a secondary lead smelter shall submit the fugitive dust control standard operating procedures manual required under § 63.545(a) and the standard operating procedures manual for baghouses required under § 63.548(a) to the Administrator or delegated authority along with a notification that the smelter is seeking review and approval of these plans and procedures. Owners or operators of existing secondary lead smelters shall submit this notification no later than July 23, 1997. The owner or operator of a secondary lead smelter that commences construction or reconstruction after June 9, 1994, shall submit this notification no later than 180 days before startup of the constructed or reconstructed secondary lead smelter, but no sooner than June 13, 1997. An affected source that has received a construction permit from the Administrator or delegated authority on or before June 23, 1995, shall submit this notification no later than July 23, 1997.

§ 63.550 Recordkeeping and reporting requirements.

(a) The owner or operator of a secondary lead smelter shall comply with all of the recordkeeping requirements under § 63.10 of the General Provisions. In addition, each owner or operator of a secondary lead smelter shall maintain for a period of 5 years, records of the information listed in paragraphs (a)(1) through (a)(6) of this section.

(1) An identification of the date and time of all bag leak detection system alarms, their cause, and an explanation of the corrective actions taken.

(2) If an owner or operator chooses to demonstrate continuous compliance with the total hydrocarbon emission standards under § 63.543 (c), (d), or (e) by employing the method allowed in § 63.548(j)(1), the records shall include the output from the continuous temperature monitor, an identification of periods when the 3-hour average temperature fell below the minimum established under § 63.548(j)(1), and an explanation of the corrective actions taken.

(3) If an owner or operator chooses to demonstrate continuous compliance with the total hydrocarbon emission standard under § 63.543 (c), (d), or (e) by employing the method allowed in § 63.548(j)(2), the records shall include the output from the total hydrocarbon continuous monitoring system, an identification of the periods when the 3-hour average total hydrocarbon concentration exceeded the applicable standard and an explanation of the corrective actions taken.

(4) Any recordkeeping required as part of the practices described in the standard operating procedures manual required under § 63.545(a) for the control of fugitive dust emissions.

(5) Any recordkeeping required as part of the practices described in the standard operating procedures manual for baghouses required under § 63.548(a).

(6) Records of the pressure drop and water flow rate for wet scrubbers used to control metal hazardous air pollutant emissions from process fugitive sources.

(b) The owner or operator of a secondary lead smelter shall comply with all of the reporting requirements under § 63.10 of the General Provisions. The submittal of reports shall be no less frequent than specified under § 63.10(e)(3) of the General Provisions. Once a source reports a violation of the standard or excess emissions, the source shall follow the reporting format required under § 63.10(e)(3) until a request to reduce reporting frequency is approved.

(c) In addition to the information required under § 63.10 of the General Provisions, reports required under paragraph (b) of this section shall include the information specified in paragraphs (c)(1) through (c)(6) of this section.

(1) The reports shall include records of all alarms from the bag leak detection system specified in § 63.548(e).

(2) The reports shall include a description of the procedures taken following each bag leak detection system alarm pursuant to § 63.548(f) (1) and (2).

(3) The reports shall include the information specified in either paragraph (c)(3)(i) or (c)(3)(ii) of this section, consistent with the monitoring option selected under § 63.548(h).

(i) A record of the temperature monitor output, in 3-hour block averages, for those periods when the temperature monitored pursuant to § 63.548(j)(1) fell below the level established in § 63.548(j)(1).

(ii) A record of the total hydrocarbon concentration, in 3-hour block averages, for those periods when the total hydrocarbon concentration being monitored pursuant to § 63.548(j)(2) exceeds the relevant limits established in § 63.543 (c), (d), and (e).

(4) The reports shall contain a summary of the records maintained as part of the practices described in the standard operating procedures manual for baghouses required under § 63.548(a), including an explanation of the periods when the procedures were not followed and the corrective actions taken.

(5) The reports shall contain an identification of the periods when the pressure drop and water flow rate of wet scrubbers used to control process fugitive sources dropped below the levels established in § 63.548(i), and an explanation of the corrective actions taken.

(6) The reports shall contain a summary of the fugitive dust control measures performed during the required reporting period, including an explanation of the periods when the procedures outlined in the standard operating procedures manual pursuant to § 63.545(a) were not followed and the corrective actions taken. The reports shall not contain copies of the daily records required to demonstrate compliance with the requirements of the standard operating procedures manuals required under §§ 63.545(a) and 63.548(a).

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BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 157

[OPP–250123; FRL–5720–5]

Ant or Roach Insecticide Bait Stations; Exemption From Adult Portion of Child-Resistant Testing Specifications

AGENCY: Environmental Protection Agency (EPA).

ACTION: Rule related notice.

SUMMARY: This document grants a 5–year exemption from the senior-adult test and younger-adult test effectiveness specifications, described in 16 CFR 1700.15(b)(2) (Ease of adult opening), for prefilled, nonrefillable ant or roach insecticide bait stations not designed or intended to be opened or activated in a manner that exposes the contents to human contact. Products qualifying for this exemption must still fully comply with all other child-resistant packaging (CRP) effectiveness, compatibility, and durability standards, as well as all other requirements of 40 CFR part 157. CRP certification for products relying on this exemption must specify that the package does not comply with the senior and younger adult effectiveness specifications per this exemption. This exemption was requested by S.C. Johnson & Son, Inc., which argued that a package that does not require opening or activation to put into use should not require adult ease of opening testing.

DATES: This exemption becomes effective on June 13, 1997 and expires on June 13, 2002.

FOR FURTHER INFORMATION CONTACT: Rosalind L. Gross, Registration Division (7505C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, Telephone number: (703) 308-7368, e-mail: gross.rosalind@epamail.epa.gov.

SUPPLEMENTARY INFORMATION: S.C. Johnson & Son, Inc. requested an exemption from the senior-adult test and younger-adult test effectiveness specifications, described in 16 CFR 1700.15(b)(2) (Ease of adult opening), for prefilled, nonrefillable ant or roach insecticide bait stations that are not designed or intended to be opened or activated in a manner that exposes the contents to human contact.

I. Background

FIFRA 25(c)(3) requires EPA's CRP standards to be consistent with those of the Consumer Product Safety Commission (CPSC). EPA's CRP regulations at 40 CFR 157.32 require that CRP for pesticides meet the CPSC packaging standards (effectiveness specifications) and testing procedures set forth in 16 CFR 1700.15(b) and 17000.20. The CPSC Poison Prevention Packaging Standards in 16 CFR 1700.15(b) provide that CRP, when tested by the method described in 16 CFR 1700.20, shall meet certain child-resistant test, senior-adult test, and younger-adult test effectiveness specifications. In 16 CFR 1700.15(b)(2), the senior-adult test and younger-adult test effectiveness specifications are discussed with reference to the senior-adult panel test of 16 CFR 1700.20(a)(3) and the younger-adult panel test of 16 CFR 1700.20(a)(4), respectively.

The EPA CRP regulations provide that exemptions from compliance may be requested on a case-by-case basis for specific products based on technical factors (40 CFR 157.24(b)(3)). The regulations further provide that any such exemption decision will be published in the **Federal Register**, will be for a specified length of time, and will be applicable to any product with substantially similar composition and intended uses.

II. Requested Grounds for Exemption

As support for its exemption request, S.C. Johnson & Son, Inc. advanced the following arguments:

The purpose of adult testing is to ensure that CRP is not difficult for adults to use properly. If CRP is difficult for adults to open, the concern arises that the package may be disabled or left unsecured to eliminate the difficulty of reopening it. Under such circumstances the contents would be accessible to children. In the case of prefilled, nonrefillable ant or roach insecticide bait stations not designed or intended to be opened, this concern does not arise. There is no risk that an adult will disable or fail to resecure a difficult to open package, because the packages need not be opened or activated in order to function properly. As there is no concern that an adult will disable or fail to resecure such a package, there is also no concern that the contents of disabled or unsecured packages will be accessible to children. Instead, from a child safety standpoint, the only relevant question regarding such packages is whether they can prevent a child from gaining access to the bait.

III. Agency Determination

The Agency has considered the S.C. Johnson & Son, Inc. exemption request and the basis therefore and agrees that it is unnecessary to test the ability of a senior-adult or younger-adult to open and properly resecure a package not designed or intended to be opened or activated. No benefits in terms of improved child safety would be gained by such testing. Therefore, the Agency hereby grants a 5–year exemption from the senior-adult test and younger-adult test effectiveness specifications, described in 16 CFR 1700.15(b)(2) for prefilled, nonrefillable ant or roach insecticide bait stations not designed or intended to be opened or activated in a manner that exposes the contents to human contact. The Agency has authority under 40 CFR 157.24(b)(3) to grant an exemption from any CRP requirement, including the testing requirements, based on technical considerations.

IV. Exemption

A 5–year exemption is granted from the senior-adult test and younger-adult test effectiveness specifications, described in 16 CFR 1700.15(b)(2), for prefilled, nonrefillable ant or roach insecticide bait stations not designed or

United States Environmental Protection Agency
Office Of Air Quality Planning And Standards
Research Triangle Park, NC 27711
EPA-454/R-98-015
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Air

OFFICE OF AIR QUALITY PLANNING AND STANDARDS (OAQPS)

FABRIC FILTER

BAG LEAK DETECTION GUIDANCE

FABRIC FILTER BAG LEAK DETECTION GUIDANCE

Prepared for
U. S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Emissions, Monitoring and Analysis Division
Emission Measurement Center (MD-19)
Research Triangle Park, NC 27711

September 1997

FABRIC FILTER BAG LEAK DETECTION GUIDANCE

Prepared for:

U. S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Emissions, Monitoring and Analysis Division
Emission Measurement Center (MD-19)
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September 1997

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FABRIC FILTER BAG LEAK DETECTION GUIDANCE

This document provides guidance on the use of triboelectric monitors as fabric filter bag leak detectors. It does not impose regulatory requirements. The guidance addresses only one suggested approach to the use of bag leak detectors. However, proper setup and operation of a bag leak detector can vary with site-specific conditions and those conditions may dictate variances from the approach suggested in this guidance.

This document includes fabric filter and monitoring system descriptions; guidance on monitor selection, installation, set up, adjustment, and operation; and quality assurance procedures. The monitoring system description and information on monitor selection and installation was taken primarily from information received from one instrument vendor.[1] The monitor set up procedure in this guidance was developed based on testing conducted on shaker and pulse-jet baghouses; however, the guidance is expected to apply to reverse-air baghouses as well.[2,3]

1.0 APPLICABILITY

Several types of instruments are available to monitor changes in particulate emission rates for the purpose of detecting fabric filter bag leaks or similar failures. The principles of operation of these instruments include electrical charge transfer and light scattering. This guidance applies to charge transfer monitors that use triboelectricity to detect changes in particle mass loading. Charge transfer monitors based on electrostatic induction are also potentially applicable, but sufficient information was not available to include them in this guidance.

The set up procedures described in this guidance are intended to allow the operator to identify upset conditions within the baghouse (e.g., torn bags) using real time data. This guidance is not intended to evaluate changes in the long term performance of the baghouse system, nor does it apply to applications in which the monitoring system attempts to quantify emission rates. The guidance assumes an emission source with relatively constant exhaust gas flow rate and particulate matter (PM) characteristics. This guidance is not appropriate for applications in which these factors vary significantly. In addition, only fabric filters (both positive and negative pressure) with exhaust gas stacks are covered by this guidance.

2.0 EMISSION SOURCE AND CONTROL DEVICE DESCRIPTIONS

This section contains information on the different types of fabric filters and the types of emission sources they are used to control. Information on fabric filter types and fabric filter operation was taken from References 4 and 5.

2.1 FABRIC FILTERS

Fabric filters are one of the most widely used devices for controlling emissions of PM. A fabric filter system typically consists of multiple filter elements, or bags, enclosed in a compartment, or housing. The process stream typically enters the housing and passes through the filter elements, and PM accumulates as a dust cake on the surface of the bag. This dust layer becomes the effective filter medium. The filter elements are cleaned periodically to remove the collected dust. A short-duration spike in particulate emissions occurs immediately following cleaning due to the loss of the dust cake.

Fabric filters generally are classified by cleaning method. The four types of cleaning methods are reverse-air, shaker, pulse-jet, and sonic cleaning. Reverse-air fabric filters are cleaned by back-flushing the filters with low pressure air flow, which is provided by a separate fan. Figure 1 depicts the reverse-air cleaning method. In shaker-type systems (Figure 2), a reciprocating motion is mechanically applied to knock the filter cake off the bags. Pulse-jet fabric filters use high-pressure compressed air, which creates a shock wave that travels along the bag, thereby loosening accumulated dust from the filter material (see Figure 3). Sonic cleaning employs a sonic horn to induce acoustic vibrations in the fabric. This method generally is used to enhance shaker and reverse-air cleaning systems.

Fabric filters also can be can be classified as either positive- or negative-pressure designs, depending upon the location of the fan(s) that provides the motive force for the exhaust stream through the unit. The fan is located upstream of the filter housing in a positive-pressure (forced-draft) unit, and downstream of the filter housing in a negative-pressure (induced-draft) unit. Positive-pressure baghouses require no ductwork or exhaust stack downstream of the unit, making bag leak detection more difficult. As such, this guidance does not apply to positive pressure baghouses without exhaust ductwork or an exhaust gas stack.

Fabric filters are capable of extremely high control efficiencies of both coarse and fine particles; outlet concentrations as low as 20 mg/dscm (0.01 gr/dscf) can be achieved with most fabric filter systems. Fabric filters are not suitable for use if the emission stream contains hygroscopic materials, a high moisture content,

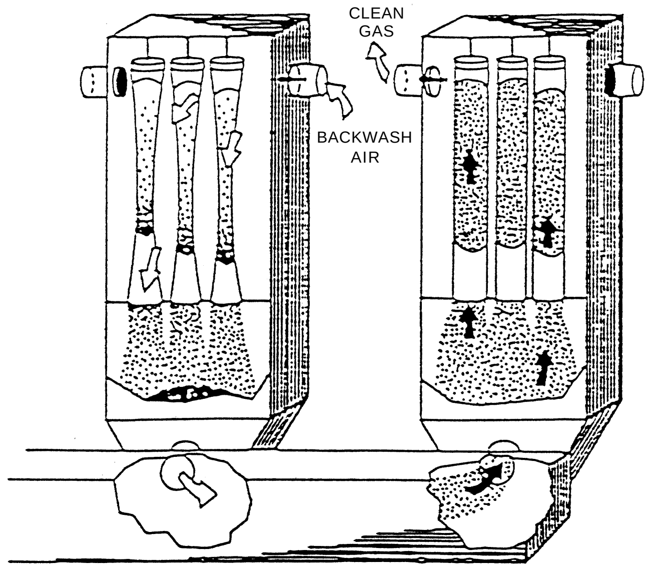

Figure 1. Reverse-air cleaning method.[4]

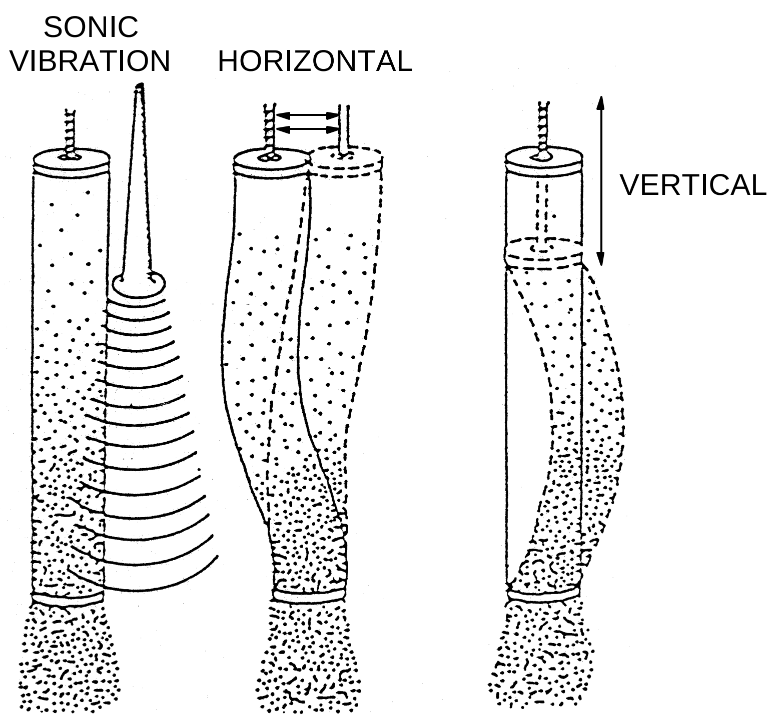

Figure 2. Shaker-type cleaning method.[4]

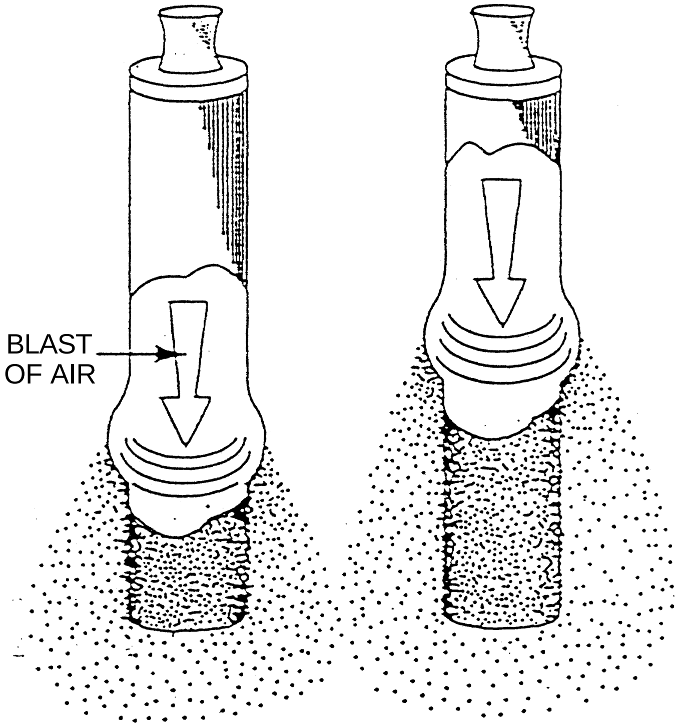

Figure 3. Pulse-jet cleaning method.[4]

or sticky substances; clogging (blinding) of the filter media can occur in these conditions. Gas stream temperatures in excess of approximately 288EC (550EF) must first be cooled, unless special ceramic or refractory fiber bags are used. Either of these modifications can add significantly to the cost of the control system. In addition, fabric filters generally are not preferred for use on highly corrosive exhaust streams or to remove high levels of soluble gases from exhaust streams. Charge transfer monitors are particularly suited to the same type of applications that use fabric filters for control of particulate emissions.

2.2 EMISSION SOURCES

Fabric filters are used in a wide variety of industrial applications for which efficient removal of PM from relatively dry exhaust streams is desired. In the mineral product industries, fabric filters are commonly used for emission control and product recovery for milling operations such as crushing, grinding, and screening. Fabric filters also are the preferred control device for mineral product pyroprocesses such as cement and lime kilns. In the metallurgical industries, fabric filters are often used to control emissions from furnaces and boilers. Table 1 lists some of the more common industrial applications for fabric filters. Fabric filters generally are not used with sources characterized by moist and/or sticky exhaust streams, such as those from wood product dryers.

TABLE 1. COMMON INDUSTRIAL APPLICATIONS FOR FABRIC FILTERS

Industry	Sources
Steel	Electric arc furnaces[a] Sintering plants[a] Boilers[a]
Foundries	Cupolas[a]
Nonferrous metals	Lead furnaces[a] Copper smelting furnaces[a] Zinc furnaces[a]
Grain handling	Cleaning operations Grinding mills Mixers and blenders Material transfer
Mineral processing	Crushers Grinding mills Screening operations Air classifiers Dryers Kilns[a] Calciners[a]
Cement	Raw mills Kilns[a] Finish mills
Asphalt concrete	Drum mixers
Glass	Melting furnaces[a]
Chemical	Dryers Grinding mills
Power plants	Coal-fired boilers[a]
Waste disposal	Incinerators[a]

[a]Cooling of the gas stream or use of refractory fiber bags may be required.

3.0 MONITORING SYSTEM DESCRIPTION

Triboelectric monitoring systems typically consist of one or more in-stack probes, a cable from the sensor assembly to the main instrument box, and signal-processing electronics housed in the main box. An example monitoring system is shown in Figure 4.

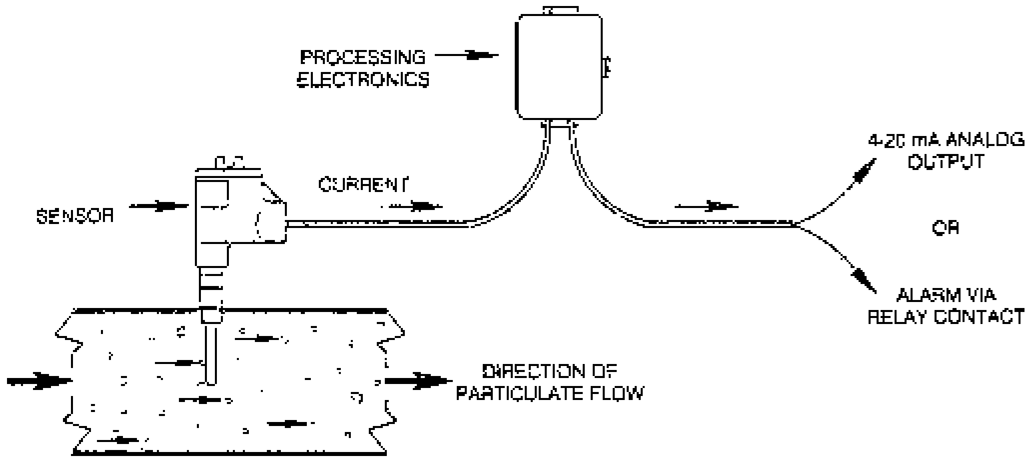

Figure 4. Monitoring system schematic.[1]

The following sections describe the principles of operation of triboelectric monitoring systems, factors that affect the performance of these systems, and signal monitoring and alarms.

3.1 PRINCIPLE OF OPERATION

When two solids come into contact, an electrical charge is transferred between the two bodies. This charge transfer is known as the triboelectric principle, or contact electrification. As particles in a gas stream collide with a sensor placed in the stream, the charge transfer generates a current that can be measured using triboelectric monitoring equipment. The current signal produced by the triboelectric effect is generally proportional to the particulate mass flow, though it can be affected by a number of factors as described below. The current, which can be as low as 10^{-13} amperes, is amplified and transmitted to the processing electronics. The processing electronics are tuned to the specific installation and configured to produce a continuous analog output (i.e., 4-20 mA signal) and/or an alarm at a specific signal level.

All fabric filter bags allow some amount of PM to pass through; this constant bleedthrough is used to establish a baseline signal. The monitoring system detects gradual or instantaneous increases in the signal from the baseline level. According to vendor literature (see Reference 1), triboelectric monitoring systems have been shown to detect baseline emissions as low as 0.1 mg/dscm (0.00005 gr/dscf).

3.2 FACTORS THAT AFFECT TRIBOELECTRIC MONITOR PERFORMANCE

The effects of various PM and gas stream parameters on the triboelectric signal are discussed below. The discussion is based on information obtained primarily from one vendor of triboelectric monitors.

3.2.1 Composition of PM and Probe

The materials that compose the triboelectric probe and the PM in the gas stream have direct bearing on the triboelectric signal generated. The farther apart the probe and PM materials are on the triboelectric table, the greater the charge generated by their contact. Generally, contact between a good electrical conductor and a good insulator produces the greatest signal. With the standard stainless steel triboelectric probe (a good conductor), a stronger signal is generated by PM composed of insulating materials than by metallic PM.

3.2.2 Velocity

The greater the velocity of a given particle, the greater the signal generated. Depending on the materials involved, the relationship of signal to velocity ranges from linear to exponential. Observed exponents have ranged up to a power of 2 (i.e., triboelectric signal increases with the square of velocity). Thus, the signal output can be very sensitive to changes in gas stream flow rate.

3.2.3 Particle Size

All other factors being equal, the triboelectric signal per unit mass is greater for smaller particles. Small particles have a greater surface area per unit mass of material, allowing for more efficient charge transfer. Thus, up to a point, the triboelectric monitor is more sensitive to small particles. However, at some point in the submicron range, particles no longer strike the probe because they lack sufficient momentum to break out of the gas stream as it flows around the probe. The aerodynamic diameter at which this phenomenon occurs varies with the material; denser materials are detected at smaller sizes than less dense materials.

3.2.4 Charge

Charged particles generate a signal independent of the triboelectric effect when they strike the triboelectric probe. As a result, the instrument is more sensitive to charged particles than to particles without charge. Conditions that cause variations in the charge on the PM will result in variable sensitivity.

3.2.5 Accumulation of PM on the Probe

When material accumulates on the surface of the probe, the sensitivity of the triboelectric monitor may be reduced. Harder materials tend to accumulate slowly, if at all, while softer, stickier materials accumulate more rapidly.

Accumulation of conductive PM on the probe can also cause an electrical bridge between the probe and ground, generating a large signal.

3.2.6 Particle Shape

Particle shape is likely to have some effect on triboelectric signal because, as discussed above for particle size, shapes with greater surface area per unit mass are expected to generate a greater signal than those with a lower surface-to-mass ratio. No data, however, are available to quantify what effect, if any, particle shape has on the signal.

3.2.7 Temperature

Gas stream temperature has no direct effect on the signal as long as the temperature remains above the dew point and below about 1100EF. The triboelectric current generated in the probe is so small that the resistance of the probe is insignificant, making temperature-induced variation in the conductivity of the probe insignificant. If the temperature drops below the dew point, water droplets generate a signal in addition to the PM signal. In addition, liquid water on the probe causes PM to accumulate. Above about 1100EF, the standard stainless steel probe begins to generate electrons, interfering with the triboelectric signal; this effect increases as temperature increases.

If gas stream temperature affects the nature of the PM, indirect effects on triboelectric signal may occur. For example, temperature effects on the chemical composition or particle size of the PM would be expected to result in variations in triboelectric signal. Changes in the gas stream temperature could also indicate a change in process conditions that could have an effect on PM characteristics.

Any affect of ambient temperature on the electronic components of the instrument can be compensated for automatically.

3.2.8 Relative Humidity

No direct gas stream humidity effects have been observed as long as the temperatures of the exhaust gas is above the dew point. If the temperature of the gas stream prior to the monitor drops below the dew point, condensation may occur and cause false alarms. Indirect effects are possible when the PM is hygroscopic or the PM characteristics are otherwise sensitive to humidity.

3.3 SIGNAL MONITORING AND ALARMS

Triboelectric monitors include on/off (switch type) and analog designs. These designs differ in the output signal generated by the electronics. On/off systems operate only with an alarm relay output that is activated at a pre-set level to indicate a high emission level. Analog systems operate with a continuous 4 to 20 mA signal that corresponds directly to the relative particulate emission level. Analog systems usually also include one or more alarm relays. The simplest analog monitor has an analog gauge with a needle indicating the current signal (percent of scale) and an on/off relay that is tripped when the input signal reaches the level set by the user. Other monitors may include analog output signals and gauges, low and high alarms, digital readouts, internal diagnostics, and quality assurance functions. Analog systems are recommended over on/off systems, so baghouse activity (baseline signal and cleaning peaks) may be tracked visually and recorded.

4.0 SYSTEM MATERIAL SELECTION AND PROBE LOCATION

The following sections provide guidance on sensor material selection, probe location, and signal processing electronics.

4.1 SENSOR ASSEMBLY MATERIAL SELECTION

The materials for the probe and insulator should be selected based on the service environment, and selections should be approved by the manufacturer. Material selection for the insulator is especially important. The insulator is positioned between the probe and the housing to electrically isolate the probe, and this isolation must be maintained to assure valid signal transmission. If PM accumulates on the probe sufficiently to bridge over the insulator to the housing, the current will flow from the housing to the probe, generating false alarms.

Several materials of construction are available for sensors. Probes are often made from stainless steel for standard applications. Other mateirals that may be used are tungsten carbide for abrasive applications or Inconel for corrosive applications. Insulators may be made from Teflon (e.g., for abrasive, noncorrosive applications), high-performance polymers (e.g., for moist gas streams), or ceramics (e.g., for high temperature and/or pressure applications). Air purge can be used to minimize the buildup of particulate matter on the insulator.

4.2 SENSOR LOCATION

The sensor, or probe, is designed to be mounted directly on the ductwork downstream of the fabric filter housing. Where practicable, the probe should be installed so that it extends at least halfway across the duct cross-sectional area. The maximum probe length may be limited (for example, 36 inches). For large ducts (greater than 72 inches), multiple sensors can be installed and electrically connected in parallel. The insulator sleeve should be flush with, or protrude slightly from, the inner duct wall; it should not be recessed within the duct wall.

The probe should be located, where practicable, in a length of straight duct, a minimum of 2 duct diameters downstream and one-half duct diameter upstream from any flow disturbance, such as a bend, expansion, or contraction in the stack or duct. A velocity traverse is recommended, in order to insure the probe is sited in a location that has similar flow characteristics to the overall exhaust gas stream. In nonmetallic ducts, an electrostatic (Faraday) shield should surround the duct and be electrically connected to the probe along with an earth ground to isolate the signal from stray electrical fields. It is important that the probe is well grounded. In addition, the probe should not be installed in a location that experiences excessive vibration or is in close proximity to a high voltage or current source.

To avoid potential build-up of particles around the probe, it should not be installed at the bottom of horizontal ducts or pipes. The location should allow ready access for maintenance and allow for removal of the sensor from the duct for inspection and cleaning. An example installation location for a negative-pressure fabric filter application is shown in Figure 5.

4.3 SIGNAL PROCESSING ELECTRONICS

The signal processing electronics can be connected directly to the sensor assembly or located at a distance using coaxial cable. The electronics should not be exposed to temperatures outside the range specified by manufacturers. The electronics should be protected from excessive vibration and physical damage and accessible for maintenance. The display should be visible to the operator.

5.0 MONITORING SYSTEM OPERATION

The following sections provide guidance on monitor set up (sensitivity, response time, and alarm levels) and operation. Methods for checking system response and drift are also included.

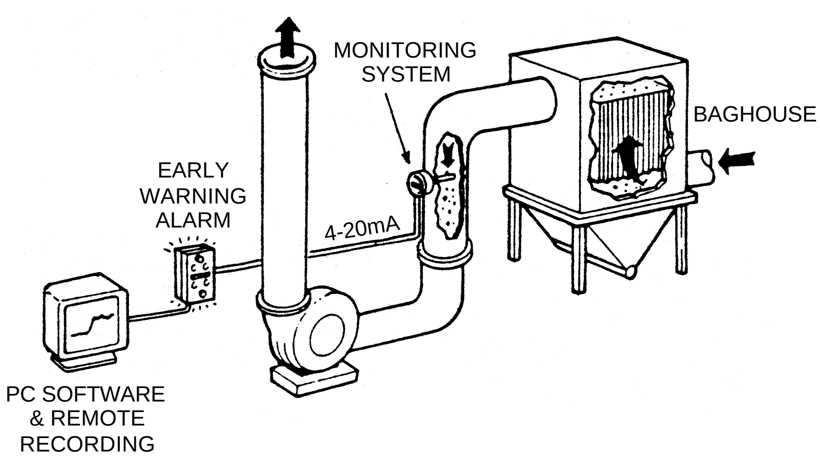

Figure 5. Installation location for a negative-pressure fabric filter application.

5.1 APPROACH TO MONITOR SET UP

After installation, the sensitivity and response time of the signal processing system are adjusted to establish signal levels for baseline operation and alarms. Sensitivity is the amplification, or gain, of the system, and this adjustment is used to establish the baseline signal level as a percent of the system full-scale (for analog systems). The scale is simply a relativescale from 0 to 100 percent, and the relationship of the signal to the particulate mass emission rate is linear. The selected baseline level determines the full scale level.

Increasing the sensitivity decreases the range to be measured; decreasing the sensitivity increases the range to be measured. For example, if the sensitivity is set so that baseline emissions are at 2 percent of scale, 100 percent of scale corresponds to an emission rate of 50 times baseline. However, if the sensitivity is set so that baseline is at 10 percent, full scale is only 10 times the baseline emission rate. Figure 6 illustrates these effects of sensitivity adjustments.

Decreasing the sensitivity to lower the baseline level results in smaller scale reading changes for a given change in the input signal level, which reduces the system's ability to detect small changes in PM levels (e.g., changes due to small bag leaks). A better approach is to use a short response time, discussed below, to smooth the cleaning peaks. Conversely, increasing the sensitivity to raise the baseline setting results in larger scale reading changes for a given change in input signal level, which can result in nuisance alarms from

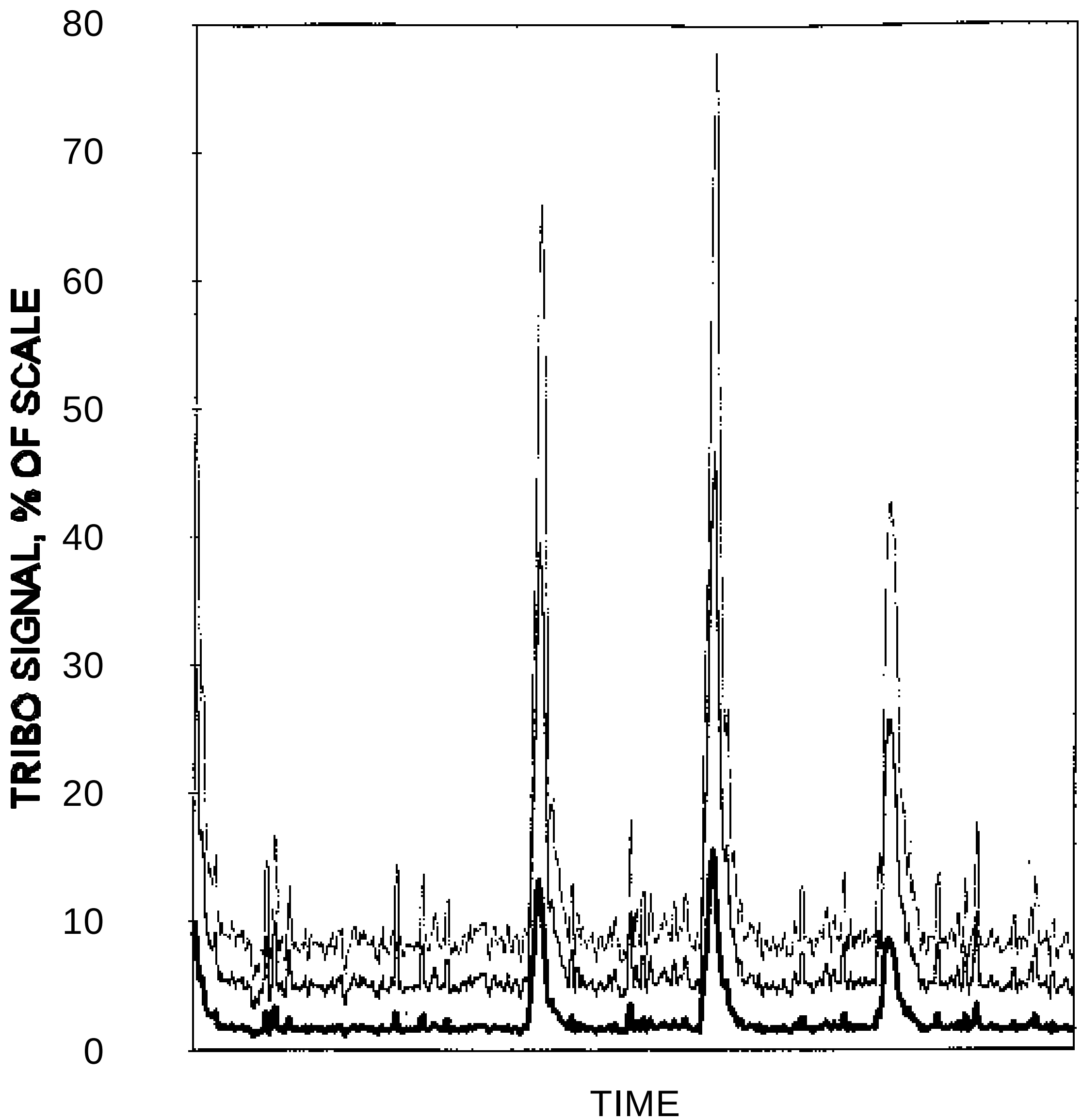

Figure 6. Effects of sensitivity adjustment.

small changes in PM levels (e.g., from emission spikes associated with normal cleaning cycles) or cause the cleaning cycle spikes to exceed the scale of the instrument. The sensitivity is typically set so that normal baseline PM loading is at some level near the bottom of the scale, usually less than 10 percent.

With a baseline greater than 10 percent, moderate to high cleaning peaks may leave no room for an adequately high broken bag alarm on scale. Sensitivity is best set so a typical cleaning peak reaches around 30 percent of scale, leaving plenty of room for an broken bag alarm as a multiple of the typical cleaning peak height, while still allowing medium and high cleaning peaks to stay within the scale of the graph.

Response time has a smoothing effect on the output signal by allowing the system to average the signal over a small period of time, thus lessening the effects of a momentary high signal. On a chart recording of the output, a longer response time results in lower, broader peaks, while a shorter response time results in taller, narrower peaks. In either case, the area under the curve is identical, and adjusting the response time does not alter the indicated emissions levels.

The shortest response time setting shows the sharp peaks associated with the filter bag cleaning cycle, and the signal can be used to identify the row or compartment of bags that may require maintenance. However, false alarms may result from momentary high signals that do not correspond to cleaning cycle peaks. Increasing the response time from the minimum setting results in a dampening of momentary high signal spikes and smooths cleaning cycle peaks. Long-term trending of bag wear and overall emissions increases is best monitored by using a long response time; however, a response time of 5 to 10 seconds is typically recommended by the manufacturer for most filter types because it smooths momentary high signal spikes while still providing a good representation of baghouse cleaning cycle activity.

Based on data analyzed by the EPA, a response time of 5 seconds typically serves to smooth the baseline and dampen momentary high signals not associated with a cleaning cycle peak, but still provides an accurate depiction of the baghouse activity. Figure 7 depicts a typical cleaning peak at 1, 5, 10, and 15 seconds of response time. At a 1 second response time, the signal is very jagged. At 5 seconds, it is smoothed out well, without overly dampening the cleaning peak. The response time of 15 seconds provides the most smoothing, but decreases the height of this particular cleaning peak from around 20 percent of scale to approximately 11 percent of scale. A long response time, such as 15 seconds, may permit a ruptured bag to go unnoticed for a longer time, while the 5 and 10 second response times prevent false alarms by dampening momentary high

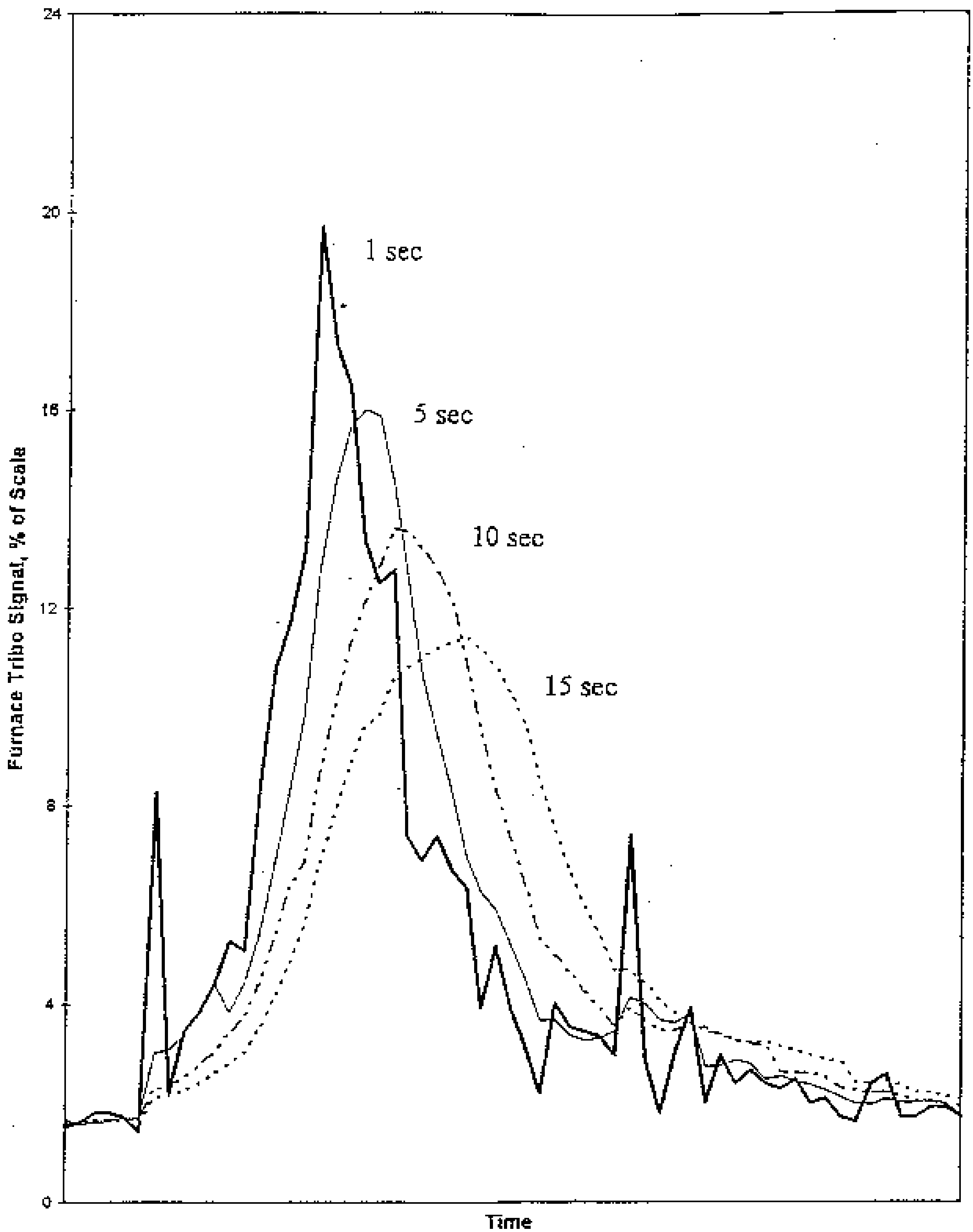

Figure 7. Effect of response time on a typical baghouse cleaning peak.

spikes very well and only slightly decreasing the height of the cleaning peak.

Some instruments can be set to incorporate a delay time. When a delay time is used, the monitor does not indicate an alarm until some set time after an emission increase is detected. The alarm is only activated when the signal remains above the alarm level for the full delay period.

5.2 MONITOR SET UP PROCEDURES

The following procedures provide a recommended set up when applicable to a given site. Changes to these procedures or alternate procedures may be necessary to address site-specific conditions.

The baseline level is established as a percentage of output scale by adjusting the sensitivity and response time of the output signal from the sensor assembly. The alarm level is then set based on the baseline emission level and/or cleaning cycle peaks. Operating characteristics vary for each baghouse, and these settings are unique to each installation. The general procedures for setting the baseline and alarm levels for analog systems are given below. The procedures for on/off systems are similar.

The general procedures for setting the baseline and alarm levels for analog type systems are as follows:

1. Ensure that the process is operating normally with air and particulate flow past the probe and that the fabric filter system is in good repair (filter bags in good condition, pressure drop normal, etc.).

2. Set the response time to minimum, and delay time to zero.

3. Adjust the sensitivity setting until the baseline emissions are 5-10 percent of scale and typical spikes during filter bag cleaning are below 50 percent of scale.

4. Increase the response time so that the baseline signal is smoothed and momentary high signals are damped, but the cleaning peaks can still be seen; a response time of 5-10 seconds is recommended.

5. Set the alarm level at 2 times the maximum height of a typical cleaning spike for bag leak detection. (For example, if the maximum height of a typical cleaning cycle peak is 30 percent of scale, the alarm level should be set to 60 percent of scale.) If there are no discernable cleaning peaks, the alarm level may be set as a multiple of the baseline, such as three times the baseline.

Some triboelectric monitors have the capability for dual alarm levels. One level may be set as a multiple of the cleaning peak height with no delay time to detect broken bags, and a second level may be set as a multiple of baseline emissions with a delay time set at least as long as the cleaning cycle in order to detect increases in the baseline emission level.

For on/off systems, the alarm level may be fixed at some percent of full range. Therefore, the alarm level is effectively adjusted by adjusting the sensitivity to a level which results in normal cleaning peaks occurring below the alarm level and high cleaning peaks triggering the alarm. A response time of 5-10 seconds is also recommended for on/off type systems so momentary high spikes do not cause an alarm.

Since a short response time is recommended for use in dampening momentary high signals and the alarm level is recommended to be set as a multiple of the typical cleaning peak height (once sensitivity is adjusted), the use of delay time is not recommended. This guidance addresses the use of triboelectric monitors as bag leak detectors, not as means of measuring a mass emission rate. Therefore, the alarm must prompt maintenance of the baghouse and must be able to detect an abnormally high cleaning cycle peak. The use of delay time may prevent a high cleaning cycle peak from activating the alarm.

Alternate procedures to set alarm levels may be needed to address site specific conditions. For example, during one EPA study [3], the monitor response to a bag leak was predominantly seen in the baseline signal. In cases such as this one, it may be appropriate to consider an alarm level that is a multiple of the baseline level and incorporates a delay time and a longer response time. For this particular study, setting the baseline at 10 percent of scale, the response time at 2 minutes, the alarm level at 30 percent (three times the baseline), and incorporating a delay time of 1 minute was appropriate. This setting produced alarms during simulated bag leaks. Again, however, monitor setup details will be site specific.

Another example of an alternate procedure may be when high humidity conditions cause false alarms. In this case, a procedure to detune the monitor or otherwise prevent the false alarms may be appropriate. Such procedures should clearly define when the period that alarms are prevented starts and ends.

5.3 MONITORING SYSTEM ADJUSTMENTS

An initial 30-day trial period is recommended to verify that the set up of the instrument is appropriate, in order to prevent frequent false alarms and ensure that the instrument has sufficient detection capability. Another reason such a trial period is recommended is to verify the system selected will perform reliably in the application and environment to which it is exposed. Some monitors may have higher sensitivity upon initial installation, but over a period of several days will stabilize and remain repeatable. The monitor lacks the ability to compensate for a buildup of particulate on the probe, so conditioning the system to the process environment is critical to reliable and repeatable operation.

After the sensitivity, response time, alarm levels, and alarm delay (if applicable) have been set and undergone the 30-day trial period, they should not be readjusted unless normal process conditions change in a manner that affects the characteristics of the particles or exhaust gas stream, such as:

1. Change out of filter bags, repair of leaks, or other process improvement that would reduce particulate emissions;

2. Slow drift of signal due to environmental factors such as humidity. If the sensitivity drifts more than -50 to 100 percent from the initial set up, the monitoring system and control device should be inspected and any necessary repairs performed.

3. Equipment is taken out of service for repair, replacement, or upgrading.

5.4 RESPONSE TEST

The response test is meant to be a check on the operational status of the monitor; it is not an accurate measure of electronic drift. The system should be tested monthly to ensure a repeatable and reliable response. A test port should be installed upstream of the probe where a known quantity of dust can be injected into the exhaust gas stream to simulate a broken filter bag. A specified dusty material and injection procedure should be prescribed that will always be used for this test. Various quantities of the selected material should be injected until the amount necessary to trigger the alarm is determined. This quantity of dust should be doubled and used to test the system monthly, in order to verify operation of the monitor. If the monitor is equipped with a continuous output, the signal response during the dust injection test should be recorded and compared to testing conducted during previous months. If signal levels differ significantly from the initial response test, action should be taken to investigate the cause of the discrepancy.

5.5 ELECTRONICS DRIFT CHECKS

The electronics drift checks are meant to be an accurate measure of the monitoring system’s electronic drift. A zero drift check can be conducted by disconnecting the sensor or shielding it from particulate. A sensitivity check can be conducted with an instrument which generates a low level current similar to the signal generated by the sensor. The sensor is disconnected from the electronics (or the process is shut down) and the signal generator is connected in its place. The instrument is then used to send a controlled input signal to the electronics to test the accuracy of the system. Some models perform automatic internal drift checks at specified time intervals. The electronics should be adjusted if the drift is greater than 20 percent, or as specified by the manufacturer. Manufacturer's instructions should be consulted for procedures specific to each model.

6.0 QUALITY ASSURANCE PROCEDURES

Quality assurance (QA) is a critical element of any environmental data collection. It is a system of management activities designed to ensure that the data collected are of the type and quality needed by the data user. QA procedures should include the necessary checks of the monitor's functioning, measurement performance criteria, maintenance procedures, and documentation to assess and document the continuing functioning and accuracy of the bag leak detection monitor. The following QA procedures are suggested to ensure proper monitoring system operation.

6.1 SENSOR INSPECTION AND CLEANING

Each sensor should be inspected at regular intervals to remove any build-up of material that may collect on the probe or insulator. A build-up of material on the probe may dampen or decrease the signal strength, and material on the insulator can form a conductive electrical bridge across the insulator, increasing the signal strength and resulting in a high alarm.

The rate of material buildup on the sensor assembly is dependent upon many factors and will vary for each installation. Thus, the interval between inspections or probe cleaning may vary considerably among installations. Inspection and cleaning of the probe and insulator should be in accordance with the manufacturer's recommendations.

6.2 MONTHLY CHECKS

Monthly QA checks should be performed to ensure the monitor is operating properly. If the results of the response test or electronics drift check are not favorable, the cause should be investigated and any malfunctions corrected.

6.2.1 <u>Response Test</u>

According to the procedures specified in section 5.4, inject the previously determined type and quantity of dust into the port installed in the duct to test the operation of the triboelectric monitor and alarm. A specific injection procedure and dust type should be defined on a case-by-case basis during the set up of the monitoring system. The output signal response should be recorded and compared to the reading obtained during the initial monitor set up. If the readings differ significantly, corrective action should be initiated.

6.2.2 <u>Electronics Drift Check</u>

According to the procedures specified in section 5.5, a signal generator should be used, with signal strengths that match those determined when the monitor was initially set up, to check the baseline and alarm level readouts. A zero drift check should be conducted; the readouts should be within 20 percent of the set levels. If the readouts do not meet this criteria, corrective action should be initiated.

6.3 ANNUAL INSTRUMENT SET UP

If the monitor's settings have not been adjusted within a year's time, an annual instrument set up should be performed. The set up procedures given in section 5.2 should be repeated and documented.

6.4 RECORDKEEPING

A record that includes the date, time, condition of each sensor as-found, and a description of any actions taken should be maintained of all inspections (e.g., probe/insulator cleaning). Records should also be maintained for all drift checks and response tests performed. Each entry in the log should be signed by the person conducting the inspection, testing, or maintenance.

The initial instrument set up procedures should also be documented so the annual instrument set up will be performed consistently. Documentation should include values for the baseline (sensitivity) setting, response time setting, and alarm level(s) and a description of how each was established. If process changes require the system parameters to be adjusted (see Section 5.3 of this guidance), the date, adjustments, and reasons for the adjustments should be documented and signed by the personnel responsible for the modifications. The instrument set up procedures should then be revised accordingly.

7.0 REFERENCES

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